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A TREATISE ON THE MEDICINAL QUALITIES OF BATH WATERS:

IN THREE PARTS.

PART I, Explains the Nature and Qualities of theſe Waters, as proved by Rational Experiments.

PART II, Points out the various Diſeaſes incident to human Nature, in which theſe Waters may be ſucceſsfully uſed. The Cauſes of thoſe Diſeaſes, and the Operation of theſe Waters on the animal Humours and Fibres, Philoſophically accounted for.

PART III, Teaches the Method of preparing the Body for the Reception of theſe Waters, and the Method of uſing them internally and externally.

By J. N. STEVENS, *M. D. of* BATH,

And Fellow of the Royal Accademy of SCIENCES.

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WILLIAM PITT, Eſq;

One of His MAJESTY'S

Principal Secretaries of State, &c.

SIR,

AS the profeſſed Deſign of the following Treatiſe is to diſplay the medicinal Qualities of the ſalutary Springs at Bath, *which, I have flattered myſelf, may be for the Good of Mankind in general, and particularly to thoſe who reſort thither for Relief; to whom could I more aptly apply for Protection, than* *to a Gentleman who is the Protector of Virtue, and his Country's Patron.*

Accept then, great Sir, the ſincere, tho' weak Endeavours of my early Labours. The Honour of your Approbation will ſecure them from Cenſure; and if defective in ſome Particulars, yet I hope, that, by this ſmall Work, I may excite others to attempt greater and nobler Diſcoveries.

It may appear ſomething ſingular, that at this Time I ſhould take the Liberty of addreſſing this Work to your Patronage; yet, I hope, a reaſonable Excuſe may be offered to you, when I aſſure you that it is not to the Secretary of State that this deſires to be accepted;

accepted; it is, great Sir, to thoſe Characteriſtics of a noble Spirit that has the Good of his Country at Heart, and diſdains ungenerous and ſelfiſh Views, which are known ſo eminently to diſtinguiſh you from the reſt of Mankind.

While other Gentlemen encounter Oppoſition in their Way to Honour; you, Sir, have been invited to be your Country's Patron by the general Voice of the People; and I make no doubt but your Character will ſhine in Hiſtory equal or ſuperior to that of the great Newton.

You will perceive, Sir, in the following Treatiſe that I have proved the

Nature and Qualities of thoſe ſalutary Springs from rational Experiments; pointed out the various Diſeaſes incident to human Nature, in which they may be internally or externally applied, and accounted for the Cauſes of thoſe Diſeaſes and the Operation of theſe Waters on the animal Humours and Fibres, from the genuine Laws of Matter and Motion.

I am far from thinking, that the following Diſcourſe is deſtitute of Errors, neither will I treſpaſs ſo far on your Goodneſs, as to invoke your Patronage of them: I only hope, that other Gentlemen, after your Example, will be ſo candid as to paſs them over. The preſent Situation in which I am *with Reſpect to you alone, prohibits me from having all Power of aſking Permiſſion to dedicate this Work to you; notwithſtanding which, Sir, I could not be at eaſe and ſatisfied, without this public Declaration, how truly ſenſible I am of your generous Behaviour to me, and all Mankind.*

Fearing I may treſpaſs too much on your Patience, give me Leave to aſſure you, that I tender the following Work to your Conſideration, with all the Deference due to your great Character; who am, in the moſt reſpectful Manner,

Great Sir,
Your moſt obliged,
And moſt obedient humble Servant,

J. N. STEVENS.

THE

PREFACE.

VARIOUS have been the Opinions of Men, about the Nature, Qualities, and medicinal Uſes, of theſe ſalutary Springs: And various Treatiſes have appeared in the World on this Subject. How much they have conduced to the good of Mankind, and to deſcribe the medicinal Qualities of theſe Waters, I muſt be ſilent on, and let the World judge; I ſhall only obſerve that if one

Gentleman, who has writ a practical Eſſay on the Uſe of theſe Waters in a ſtubborn Diſeaſe which has reign'd predominant in theſe Kingdoms, had been a little more given to writing, the World might have been ſomewhat the wiſer for the Books which have been writ on this Subject; but at preſent, I think there is ſomething more wanted, to inform Mankind of the Nature and medicinal Qualities of theſe ſalutary Springs, their Uſes in the various Diſorders which human Nature is ſubject to, and the Method of uſing them in thoſe Diſorders.

In the following Treatiſe I ſhall endeavour to inform the World, Firſt, Of the Nature and Qualities of theſe Waters.

Secondly, Of the various Diſeaſes in which they may be ſucceſsfully uſed; the Cauſes of thoſe Diſeaſes, and the Reaſons how and why they may be uſed ſucceſsfully in theſe Diſorders.

Thirdly, The Method of preparing the Body for the Reception of theſe Waters. And the Method of uſing them internally and externally.

As a Work of this Kind muſt be of great Service to the World in general, I have flattered myſelf that I ſhall not be condemned for endeavouring to oblige Mankind with my Sentiments on this Subject, as my only View is the Support of the Dignity of Phyſick, and the Good of my Fellow-Creatures.

THE Nature and Qualities of theſe Waters I have diſcovered from Experiments made at the Pump-head, and by their Effects on the animal Humours when in Motion. The Diſorders in which they are proper I have learned from Experience, or deduced from rational Principles; their Cauſes I have proved from the genuine Laws of the animal Oeconomy; and the Effects of theſe Waters therein, I have proved from the genuine Laws of Matter and Motion. The Method of preparing the Body for the Reception of theſe Waters, I have diſcovered from Experience and a juſt Reaſoning founded thereon. And the Manner of uſing them, I have diſcovered from their Effects on the animal Humours when in Motion.

OUR great phyſical Præceptor *Hyppocrates*, in the Beginning of his incomparable Book of Aphoriſms, lays down a very ſhort, but comprehenſive Sentence, as an Introduction to that excellent Book; *Vita brevis*, *Ars verò longa:* Which I think may be underſtood thus, That Life is ſhort, and the Compaſs of Time very unequal to compleat a Phyſician, in the ſeveral Branches of his Profeſſion. For after he has ſtudied the various Kinds of School Literature, gone through a Courſe of natural Philoſophy, and all the Experiments neceſſary to compleat him in the Knowledge of natural Bodies, he is ſtill to begin his Enquiries as a Phyſician.

THE antient Phyſicians, always ſolicitous for their Succeſs in the Practice of Medicine, grounded their Theory upon the Maxims of the baſeleſs Philoſophy then moſt generally received; but as their Syſtems were void of a rational Foundation, ſo could they afford but little Certainty, in a Practice founded upon ſuch precarious Principles.

THE Moderns, therefore, ſince the great Improvements in Anatomy, and natural Philoſophy, muſt have much more certain Rules to act by; and it can be imputed to nothing but the moſt ſtupid Negligence, and ſelfiſh Views, if, aſſiſted with the Labours of our Predeceſſors, we do not make a greater Progreſs than them, in all the Branches of the Arts and Sciences, and arrive to a greater Perfection in their Practice, than could poſſibly be expected from them, which were all their Time groveling in a State of Obſcurity.

AND I am very well aſſured, that if Men would employ more of their Time in the Study of Nature's Works, the Conſtitution of the human Body, and leſs in their Pleaſures, every Age would raiſe up more *Hyppocrates*'s, *Newtons*, *Boerhaaves*, than what the ſeveral Ages paſt have been able to boaſt of.

THE Genius' of Men are generally the ſame in all Ages, but moſt of us employ the Talents Nature has endowed us with to wrong Purpoſes; ſome of us which have Talents ſufficient to make ſome Progreſs in the Study of Nature, and the Conſtitution of the human Body, employ them in nothing elſe but to ſtudy their Luxury and Pleaſures, and how they ſhall monopolize a Practice to themſelves, and keep off thoſe that would ſtudy the

Good of Mankind, and make ſome Improvements in the Sciences.

I THINK this has been diſcovered in a great many Practitioners of Medicine of late, and in thoſe of no ſmall Note; but what ſurprizes me moſt, is, that the World ſhould be ſo blindfolded that they cannot ſee thoſe Wretches, which little regard the Dignity of their Profeſſion, or the Lives of their Patients, but if they can get their Multiplicity of Fees, all well; but very often prefer them to the legitimate Sons of *Æſculapius*, who have the Good of their Fellow-creatures, and the Dignity of their Profeſſion at Heart.

The great Diſcouragement Men of Merit have met with of late in theſe Kingdoms, have deterr'd many from making any Progreſs in the learned Sciences, and even in the mechanic Arts, and I think with very juſt Reaſon; for what greater Mortification can happen to a Man of Merit, who employs moſt of his Time in making ſome Progreſs and Diſcoveries in the Sciences, or in endeavouring to excel in his Profeſſion, than to ſee a worthleſs Perſon, who knows no more of his Art or Profeſſion than the Cuckow knows how to ſing by the Notes of Muſick, preferr'd before him. But this is moſtly the Caſe with us, Virtue and Merit are diſregarded as uſeleſs Ingredients; Intereſt, and Money, makes, and prefers the Man. If we wou'd but caſt our Eyes on the Proceedings of a foreign proteſtant Power, and ſee what Progreſs is *there* made in all the Arts and Sciences, as well in the War, by rewarding Virtue and Merit, and puniſhing the contrary with Contempt, I think we ſhould be aſhamed of our Proceedings, and once more re-aſſume our priſtine Luſtre.

I ſhall once more tell the World that I ſhall ſend this little Book among them, to let them know my Sentiments on thoſe ſalutary Springs, not as a Bait to catch that empty Bubble call'd Fame, but only to diſcharge the Duties of my Profeſſion. I am well aſſured that a great many will treat with Contempt both me and it, becauſe Falſhood and Flattery is deſpiſed, and Truth adhered to, which is ſomewhat contradictory to their Principles, and lays open their Actions, which, like a Glow-worm, will ſhine better in Darkneſs than in Light; but I muſt now tell theſe People, and likewiſe all thoſe that make it their Buſineſs to criticiſe on other Men's Works without a Cauſe, that before they ſet up for Criticks, or more properly ſpeaking Revilers of other Men's Works, they ſhould read carefully Mr. *Pope*'s *Eſſay on Criticiſm*, which will inform them ſomewhat of the Nature of a Critick.

To conclude; I am under no Concern how this Work, which has coſt me a great deal of Trouble and Study, will be received by the generous Part of Mankind, being very conſcious that I've no ſiniſter Views, or any indirect or diſingenious Proſpect to advance: I've done my beſt on this Occaſion, and declare, that was I ever to be afflicted with any of the Diſorders wherein the *Bath* Waters are recommended in the following Sheets, I would immediately comply with the Directions I have laid down for uſing theſe Waters, in theſe Diſorders; and ſhould not doubt of getting Relief, both to my own Advantage and Reputation, as expeditiouſly

tiouſly as the Nature of the Diſtemper, and the Neceſſity of concomitant Circumſtances would permit.

* * *

Becauſe the Author had not Time to attend the Preſs, the following Errata have happen'd; which the Reader is deſir'd to correct.

PAGE 15, Line 13, for which, read who.—p. 16, l. 18, for that, r. who.—p. 17, l. 9, for which, r. who.—p. 20, l. 10, for that, r. who.—p. 24, l. 21, for that, r. who.—p. 25, l. 20, for thoſe, r. theſe.—p. 31, l. 6, for thoſe, r. theſe.—p. 33, l. 18, for Mikineſs, r. Milkineſs.—p. 41, l. 9, for it, r. they.—p. 42, l. 8, for it, r. they.—Ib. l. 14, for it, r. they.—p. 45, l. 1, for Ebullion, r. Ebullition.—p. 53, l. 21, for it, r. they.—p. 55, l. 3, for was, r. were.—Ib. l. 8, for it, r. they.—p. 57, l. 15, for Experiment, r. Experiments.—p. 60, l. 15, for it, r. they.—p. 63, l. 14, dele it.—p. 67, l. 11, for it, r. they.—p. 72, l. 17, for that, r. who.—p. 77, l. 1. for which, r. who.—p. 78, l. 1, for which, r. who.—p. 83, l. 10, dele the Semi-colon.—p. 87, l. 13, after ſame, add a Comma.—Ibid, l. 22, for Fluids, r. Fluid.—p. 92, l. 1, r. we may join.—p. 93, l. 16, for too, r. to.—p. 95, l. 6, after Obſtruction add a Comma.—Ib. l. 12, after Diſcharge add a Comma.—p. 97, l. 4, for ariſes, r. ariſe.—p. 102, l. 15, after Fits add a Comma.—p. 108, l. 21, r. require there.—p. 112, l. 15, for ariſes, r. ariſe.—p. 114, l. 1, for which, r. who.—p. 124, l. 8, for ariſes, r. ariſe.—p. 128, l. 6, after Action add a Semi-colon.—p. 131, l. 21, for is, r. are.—p. 137, l. 12, for Aſtmatic, r. Aſthmatic.—p. 143, l. 10, for is, r. are.—p. 150, l. 19, for is, r. are.—p. 151, l. 7, for is, r. are.—p. 153, l. 11, for gives, r. give.—p. 161, l. 22, for which, r. who.—p. 163, l. 2, for extreame, r. extreme.—p. 168, l. 8, for on, r. in.—p. 173, l. 3, for is, r. are,—p. 177, l. 15, for Balm, r. Baum.—p. 181, l. 14, for Balm, r. Baum.—p. 186, l. 19, for Balm, r. Baum.—p. 190, l. 13, for Lenter, r. Lentor.—p. 195, l. 18, after Smell add a Comma.—p. 196, l. 16, for paſſes, r. paſs.—p. 199, l. 6, for Allum, r. Alum.—p. 204, l. 14, for Balm, r. Baum.—p. 209, l. 19, for is, r. are.—p. 213, l. 18, for anſwers, r. anſwer.—Ibid, l. 20, for is, r. are.—p. 218, l. 12, r. to the Solids.—p. 222, l. 18, for Conſequences, r. Conſequence.—p. 226, l. 2, for which, r. who.—233, l. 10, after which, add likewiſe.—p. 242, l. 9, for the, r. their.—p. 246, l. 17, for rediculed, r. ridiculed.—p. 247, l. 4, for Redicule, r. Ridicule.—Ibid, l. 19, for is, r. are.—p. 250, l. 22, for that, r. who.—p. 251, l. 9, for decreaſes, r. decreaſe.—p. 252, l. 9, for does, r. do.—Ib. l. 23, for its, r. their.—p. 256, l. 4, for Cohetions, r. Coheſions.—Ib. l. 12, for ariſes, r. ariſe. p. 259, l. 10, for is, r. are.—p. 263, l. 3, for attends, r. attend.—p. 265, l. 12, for Parts, r. Part.—p. 266, l. 10, after Fluid add a Comma.—Ib. l. 16, for accompanies, r. accompany.—p. 267, l. 5, for its, r. their.—p. 270, l. 12, for paſſes, r. paſs.—p. 271, l. 3, for waſte, r. waſtes.—p. 272, l. 2, for is, r. are.—p. 278, l. 20, after mix, add a full Stop.—p. 294, l. 6, for is, r. are.—Ib. l. 20, for attends, r. attend.—p. 295, l. 4, for demands, r. demand.

A
TREATISE
ON THE
MEDICINAL QUALITIES
OF
BATH WATERS.

PART I.

Of the Nature and Qualities of theſe Waters.

THE Subject which I am now going to treat of, has made a very great Noiſe in the World of late; ſome aſſerting that the Contents of theſe Waters are Sulphur, Nitre, ſome Alkaline Salt, and Earth. Others that are more modern,

dern, ſomewhat contradict theſe Aſſertions by denying the Exiſtence of common Brimſtone, as they call it here, but poſitively aſſert that the oily Particles of theſe Waters are ſulphureous; and that they are alkalious, they prove by their turning green with Syrup of Violets, and other Experiments too tedious to mention. They likewiſe aſſert that Nitre may be ſeen in theſe Waters, as plain as we can ſee the Sun when he ſhines on the Meridian. This was the common received Notion of the Nature and Qualities of theſe Waters, 'till within theſe two or three Years, that a certain Gentleman (after repeated Experiments) poſitively denied the Exiſtence of either Sulphur, Nitre, or any alkaline Salt, in theſe Waters; this immediately made a great Noiſe in the World, occaſioned many Debates, and a Paper-war between him and others of a different Opinion.

Now any Perſon that would diſcover the true medicinal Qualities of theſe Waters, muſt ſomewhat contradict the Aſſertions of all thoſe great Men, even of him who has lately read Lectures on this Subject; altho' I would not have him nor any other Perſon think that I intend to rob him of the Praiſe that's due to him; no, I ſhall always confeſs that he has diſcovered more of the Nature and Qualities of theſe Waters than ever were known before; but this Gentleman muſt not take it ill if we correct him where he deviates from Truth, and prove our Aſſertions by Reaſon and Experience.

HAVING collected a ſufficient Number of Materials for this Purpoſe, we will now begin our Experiments to prove the Nature and Qualities of theſe Waters, and the Subſtances which they bring up with them. And firſt, we will begin our Enquiry with examining into the Nature and Qualities of that heterogeneous Matter thrown up with thoſe Waters, in the Form of Sand. This Matter according to ſome, contains a great

Quantity of common Brimſtone; and this they pretend to prove, becauſe it emits a ſtrong ſulphureous Vapour, and a blue Flame, but I think thoſe People are greatly miſtaken, as I ſhall prove from the following Experiments.

THIS Matter when taken up from the Ciſterns and dried, appears at firſt like a grey Sand, but upon a cloſer View, it appears to have a great deal of a dark coloured Vitreous Matter, in its Compoſition. To the Taſte, this Matter gave me Reaſon to ſuſpect there was a great Quantity of Iron in it; and when I mixed it with Spirit of Vitriol it cauſed a violent Efferveſcence, and diſcharged a ſharp, and fœtid Vapour. Thrown upon a Piece of Iron red hot, it emits a ſtrong ſtinking Vapour, and a faint blue Flame, which made me believe there was Sulphur in it; but when I had thoroughly heated a ſmall Crucible, I threw ſome of this Matter therein, condenſed the Vapour, and found there was not the leaſt Grain of Sulphur in it; but it appeared to me to be Vitriol. Afterwards I took the remaining Maſs and powder'd it, and then with a good Magnet I extracted ſome Iron from it, the Reſiduum cauſed a violent Efferveſcence when mixed with the Spirit of Vitriol, and a ſmall Conflict when mixed with Juice of Lemons; and to me appears to be nothing elſe than an abſorbent Earth.

I HAVE ſince read the Treatiſe writ on *Bath* Waters by the Gentleman already mentioned, and in this particular am of his Opinion; that this powder'd Matter, commonly called *Bath* Sand, is nothing elſe than the diſſolved Pyrite, and is the Cauſe both of the Heat and Impregnation of theſe Waters.

THERE is likewiſe a dark colour'd Matter thrown up with theſe Waters, in the Summer Months, and ſwims on their Surface, but is diligently ſcummed off, before the Perſons enter the Baths to bathe; this was formerly looked upon as a ſulphureous Matter, but a [a] Treatiſe which has lately appear'd in the World, has proved ſo plain to the contrary, that it is nothing but a minute aquatic Plant, and entirely void of Sulphur, that it would be needleſs to make any farther Experiments thereon. I ſhall only obſerve that any Perſon of common Senſe may both prove, and ſee it to be a Plant; and that even without a Pair of Spectacles.

HAVING thus taken Notice of what the Waters bring up with them in an undiſſolved State; I ſhall now examine particularly into the Waters of the King's, Hot, and Croſs, Baths; and from repeated Experiments ſee what they contain.

HERE, I muſt differ ſomewhat from our late Lecturer on theſe Waters, as any Perſon will ſee from the following Experiments, that I ſhall have very juſt Reaſon ſo to do.

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[a] *Lucas's*

This Gentleman makes the Waters of the Croſs-Bath, Hot-Bath, and King's-Bath, to contain the ſame Quantity of Ingredients, and thoſe Ingredients to be of the ſame Quality in the one as in the other; and in one Place of his Treatiſe he ſays, who then, can ſufficiently admire the extreme Exactneſs, the ſtrict Accuracy of thoſe moſt cautious Practitioners, who with critical Nicety diſtinguiſh theſe Waters the one from the other, and carefully confine Patients, even of the moſt robuſt Frames, to ſome few Ounces a-day of that, that they look upon as the weakeſt Impregnation? One comfortable Aſſurance, the Public has in this Inſtance, which it is much to be wiſhed, might be extended to the other Therapeutic Parts of Practice; and that is, that though ſuch Practitioners may let their Patients die, ſometimes; they can never be ſuſpected to kill them, with Bath Water. In another Part of his Treatiſe he ſays, it behoves the more weakly and delicate, to be more cautious in commencing a Courſe of theſe Waters. And none ſhould take them, without previouſly emptying the firſt Paſſages, with ſome Simple, Saline or Manna Purge. Thoſe of tender Frames will find it beſt to begin with one of the cooler Waters, as that of the Croſs-Bath, for Example; and at firſt, take no more than a Quarter of a Pint at a Time, and not above a Glaſs or two a-Day, for ſome Days; then, increaſing gradually, inſenſibly to the Quantity requiſite; and then, gradually exchanging it for the hotteſt, where that is found neceſſary; and after taking it thus, the ſtated Time, diminiſhing the Quantity, and changing the Water, in the ſame Order and Proportion, in which it was augmented.

THIS Gentleman likewiſe ſays, in all his Experiments of Colour ſtriking with the Waters; that the Waters of the Hot and Croſs-Baths, treated in the ſame Manner with that of the King's-Bath, gave ſimilar Appearances, only the Colours were more pale, yet the

Quality of the Ingredients, muſt certainly be the ſame in the one as in the other. But let *Ephraim* follow his Idols, we will follow Truth; and now begin our Experiments on theſe Waters, ſetting out with theſe of the King's-Bath, and afterwards proceed to thoſe of the other Baths.

In the Water of the King's-Bath, when drawn up by the Pump, the firſt Thing we perceive which is remarkable, is a ſtrong acid Vapour, which may be both ſmelled and taſted; it proves very offenſive to Perſons ſubject to Diſorders of the Lungs, and very much corrodes all the Iron Works in and around the Baths. This is a very volatile Vapour, and is continually flying off, notwithſtanding the Water is put in a Glaſs Veſſel and cloſely corked, and by the Time the Water is cold, this ſubtil Acid is for the moſt Part evaporated, as may be proved from the following Experiments.

WITH four Ounces of Water, (which is the Quantity I always uſe) juſt drawn at the Pump-Room, I mixed thirty Drops of Infuſion of Galls; very ſoon after mixture it gave a beautiful purple Colour to the Water, and in leſs than half an Hour a Pellicule of various Colours appeared on its Surface. In about eight Hours the colouring Matter was precipitated, and the Water, appear'd of a Whey Colour; next Day it appear'd of a perfect Green.

WITH another Glaſs of Water, I firſt mixed four Drops of Spirit of Vitriol, and immediately after thirty Drops of Infuſion of Galls as aforeſaid; the Spirit of Vitriol produced no viſible Change with the Water, except making it appear ſomewhat more bright and ſparkling; but very ſoon after the Mixture of the Galls, the Water appear'd of a beautiful Purple, which was much higher and finer than that with the Galls alone. Viewed about eight Hours after, the Water ſtill retained its Colour, but next Day the colouring Matter was precipitated, and the Water appeared of a pale bluiſh Colour, with a beautiful Pellicule, of various Colours on its Surface.

WITH a third Glaſs of Water, I mixed Salt of Wormwood eight Grains, it immediately cauſed a ſmart Ebullition, which was ſoon attended with a pale Milkineſs. In about eight Hours, there was a ſubtil white Matter precipitated to the Bottom of the Glaſs, and a light Pellicule cover'd the Surface of the Water. Next Day its Appearances were much the ſame.

WITH a fourth Glaſs of Water, I mixed ſix Grains of *Sal. Vol.* c. c.; its Appearances were much the ſame as the laſt, only the Milkineſs which ſucceeded the Ebullition, and the precipitated Matter, were much more white and fine.

With a fifth Glaſs of this Water, I firſt mixed two Drops of Spirit of Sulphur, which cauſed no viſible Change in the Water; I then immediately added the Galls as aforeſaid, which made the Water ſomewhat muddy, but not the leaſt Shade of Purple could be ſeen therein. Viewed eight Hours after, it appeared much the ſame; the next Day there appeared a ſmall Quantity of whitiſh Matter precipitated to the Bottom of the Glaſs.

With a ſixth Glaſs of Water, I mixed twenty Drops of *Spt.* c. c. it occaſioned a ſlight Ebullition, which was ſoon ſucceeded with a Milkineſs and a bluiſh Hue. Viewed eight Hours after, it appeared of a dark muddy Colour, with a ſmall Quantity of an aſh-coloured Matter precipitated on the Bottom of the Glaſs, and a ſmall Terrene Pellicule, on the Surface of the Water. Next Day it appeared much the ſame, only the Water ſomewhat more clear.

WITH a ſeventh Glaſs of Water, I mixed ten Drops of a Solution of Sulphur, it immediately grew milky, gave a very putrid Smell, and very ſoon after a large Quantity of aſh-colour'd Matter was precipitated. Soon after I added the Infuſion of Galls as aforeſaid, but after Mixture not the leaſt Shade of Purple could be diſtinguiſhed. Viewed eight Hours after, the Water appeared of a pale blue Colour, the Sediment the ſame, and a Pellicule of various Colours appeared on the Surface of the Water; next Day it appeared ſomewhat greeniſh.

WITH an eighth Glaſs of Water, I mixed *Sal. Martis* half a Grain, it immediately rendered the Water much more bright and ſparkling, but no other viſible Change was produced. I then added the Infuſion of Galls as aforeſaid, which immediately gave a much ſtronger Purple Colour to the Water, than the Galls alone. Viewed eight Hours after the colouring Matter was beginning

ning to precipitate, and was the Colour of Port Wine. Next Day the Matter was entirely precipitated, and appeared more dark; the Water was almoſt as clear and bright as ever, and no Pellicule was to be perceived on its Surface.

A NINTH Glaſs of Water, I heated (immediately as drawn from the Pump) ſo as to raiſe the Quickſilver in the Thermometer to 160; its native Heat raiſing it to 119. I then mixed the Infuſion of Galls with it as aforeſaid, it immediately made the Water ſomewhat more muddy, but not the leaſt Shade of Purple could be perceived in it. Viewing it eight Hours after, the Water appeared much the ſame, and a beautiful Pellicule of various Colours appeared on its Surface. Next Day a large Quantity of Aſh-coloured Matter was precipitated, the Water appear'd more clear and of a greeniſh Hue, with the Pellicule as aforeſaid.

With a tenth Glaſs of Water, I mixed Infuſion of Logwood twenty Drops, it immediately gave the Water a beautiful Violet blue. Viewed eight Hours after, the colouring Matter was moſtly precipitated, and the Water became of a yellowiſh Hue. Next Day its Appearances were much the ſame.

With an eleventh Glaſs of Water, I mixed four Drops of Spirit of Vitriol, and immediately after the Infuſion of Logwood as aforeſaid; it immediately gave the Water a Violet blue, much ſtronger than that given by the Infuſion alone. Viewed eight Hours after, its Appearances were much the ſame. Next Day ſome Shades of Purple were to be ſeen in the Water; but no Sediment.

With a twelfth Glaſs of Water, I mixed one Drop of Spirit of Sulphur, it produced no viſible Change, and immediately after the Infuſion of Logwood as aforeſaid. It inſtantly changed the Water the Colour of

French white Wine; but not the leaſt Shade of any other Colour was to be ſeen. Viewed eight Hours after, it appeared juſt the ſame. Next Day a ſmall Quantity of Aſh-coloured Matter was precipitated, but the Water retained much the ſame Colour.

WITH a thirteenth Glaſs of Water, I mixed a Solution of Sulphur three Drops, and immediately after the Infuſion of Logwood as aforeſaid, it gave no other Colour to the Water than the Colour of the Infuſion; the Water appeared ſomewhat turbid, when viewed eight Hours after.

WITH a fourteenth Glaſs of Water, I mixed half a Grain of *Sal Martis*, and immediately after the Infuſion of Galls as aforeſaid; it immediately made the Water the Colour of Indigo, and not in the leaſt turbid. Viewed eight Hours after, its Appearances were much the ſame. Next Day the colouring Matter was precipitated, and the Water more clear.

Having made theſe Experiments on the Waters of the King's-Bath, juſt as they are raiſed with the Pump from their Source; I ſhall now proceed to examine theſe Waters when cold, and kept ſome Time from their Source.

Having fill'd Bottles of theſe Waters, and corked them carefully, I let them remain for two Days, and then repeated the foregoing Experiments; to ſee what Changes had happened to theſe Waters, and to diſcover the Nature of that volatile Vapour, which is diſcover'd to be continually flying off from them, till cold. In theſe Experiments I ſhall uſe the ſame Quantity of Water and the ſame Quantity of other Ingredients, as in the laſt.

In the firſt Glaſs of Water, when cold, I dropped the Infuſion of Galls, it immediately gave ſome Shades of Purple to the Water, but nothing near ſo ſtrong as when it was hot; neither was there the leaſt Sign of a Pellicule to be ſeen on its Surface, when viewed ſome Time after.

With another Glaſs I mixed Spirit of Vitriol and the Galls as aforeſaid, its Appearances were much the ſame as the former, not highten'd in the leaſt; and when viewed next Day no Pellicule was to be diſcover'd, nor but very little Alteration was to be diſcover'd in the Water.

With a third Glaſs I mixed Salt of Wormwood as aforeſaid; but it neither produced that ſmart Ebullition, nor Milkineſs, that it produced when the Water was hot; neither was the Quantity of the precipitated Matter ſo much, when viewed eight Hours after.

WITH a fourth Glaſs I mixed *Sal. Vol.* c. c. as in the former Experiments, but it neither produced ſo great an Ebullition, Milkineſs, nor Precipitation, as in the former Experiments; neither did the fifth Glaſs when mixed with *Spt.* c. c.

WITH the ſixth Glaſs I mixed the Spirit Sulphur and Infuſion of Galls as aforeſaid, but it produced no viſible Change in the Water, except making it a little more muddy. When viewed next Day it was much the ſame.

WITH a ſeventh Glaſs I mixed ten Drops of a Solution of Sulphur; it neither precipitated ſo ſoon as in the former Experiment, nor produced any diſagreeable Smell.

WITH the eighth Glaſs I mixed Infuſion of Logwood, as in the former Experiments; it gave the Water no Colour but the Colour of the Infuſion; when viewed ſome Time after, it was much the ſame. I then took another Glaſs and dropped ten Drops of the Infuſion therein, it immediately gave a pale Violet Colour to the Water, but not near ſo ſtrong as in the former Experiments.

WITH the ninth Glaſs I mixed the Spirit of Vitriol, and Infuſion of Logwood ten Drops, as in the former Experiment; very ſoon after Mixture, it gave the Water a pale Violet blue, much more pale than what it gave in the former Experiments. When viewed next Day, it appeared much the ſame.

WITH the tenth Glaſs I mixed Spirit of Sulphur, and Infuſion of Logwood, as aforeſaid; it immediately produced the ſame Colour as in the former Experiments. And when viewed next Day its Appearances were much the ſame, only the Quantity of the precipitated Matter was not ſo great as in the former Experiments.

With the eleventh Glaſs I mixed a Solution of Sulphur, and the Infuſion of Logwood as aforeſaid; its Appearances were much the ſame as in the former Experiment made with the hot Water.

From the preceding Experiments, any judicious attentive Reader may eaſily judge of the Nature and Quality of this volatile Matter, which is continually flying off from theſe Waters. Their ſtriking a Purple Colour with Infuſion of Galls, denote them to contain ſome Particles of Iron. This Gall-tinging Quality looſing as the Waters cool, denotes theſe Particles of Iron to be of a volatile Nature, and for the moſt Part flies off in Vapour. The ſame may be obſerved by its ſtriking a beautiful Violet Colour with Infuſion of Logwood, and a much paler Colour when cold. The ſame may likewiſe be obſerved by *Sal Martis* heightening theſe Colours, when mixed with the Waters; and making them more bright and ſparkling.

By Spirit of Vitriol's increaſing theſe Colours in the Waters, when juſt drawn from their Source, and producing no viſible Effect when cold; we may conclude that this Vapour is likewiſe of the vitriolic Kind. And by the leaſt Quantity of Sulphur, or its Spirit, being mixed with the Waters, is their colouring Quality deſtroyed. From whence we may plainly conclude, that not the leaſt Particle of that Subſtance can exiſt in their Compoſition. An additional Heat which is capable of raiſing the Mercury in the Thermometer 40 Degrees being given to theſe Waters, entirely deſtroys their colouring Quality, and ſends it off all in Vapour. From whence we plainly ſee how ſubtil and fine this Vapour is; which we may conclude to be nothing elſe than an exalted vitriolic Steel.

The Exiſtence of this ſubtil Acid in theſe Waters when juſt drawn from their Source, may likewiſe be proved by their raiſing a violent Ebullition with the Volatile and fixed Alkaline Salts; which decreaſes as the Waters cool, and when they grow quite cold, it is ſcarcely perceivable.

Having thus pointed out the Nature and Qualities of this ſubtil Acid which is continually flying off from theſe Waters, 'till they are quite cold; our next Enquiry muſt be into the Nature and Qualities of the more fixed Particles of Matter which enter into the Compoſition of theſe ſalutary Fluids.

For this Purpoſe I got a Glaſs Veſſel which contained ſix Quarts of the King's-Bath Water; this I placed in a Sand Heat, and evaporated to Dryneſs. In which as the Water exhaled, I obſerved the following Appearances;

Firſt, A thick Pellicule, which cover'd the Surface of the Water.

Secondly, The Sides of the Veſſel were coated with a Saline and Earthy Subſtance.

Thirdly, When the Humidity was exhal'd to about half a Pint, the then remaining Fluid appear'd the Colour of Mountain Wine, which became more dark till all the Humidity was exhaled.

When all the Humidity was exhaled, I carefully collected the ſolid Contents remaining, which weighed three Drachms and half; theſe ſolid Contents appear'd of an Aſh Colour. I repeated this Experiment three or four Times; and after I had collected a Quantity of this Matter; I began to examine into its Nature and Qualities.

Having ſeparated a Part of this Matter, I mixed it with Spirit of Vitriol, it immediately produced a ſtrong Ebullition and Efferveſcence, with an Acid Vapour, which made me conclude at firſt that this Matter was entirely Alkaline; but I found my Miſtake afterward, and plainly perceived that this was nothing but the Earthy Particles which cauſed this Ebullition with Acids.

THROWN on a Piece of red-hot Iron or Coal, they fumed very ſlightly, but without any viſible Flame or Acid Vapour. I mixed one Grain of Sulphur viv. with one Drachm of this Reſiduum, and threw it on a Piece of red-hot Iron as before; the Sulphur immediately fumed, and gave a blue Flame; which was not to be perceived before. I then mixed one Grain of Nitre with the ſame Quantity, it immediately fumed, and gave a lucid Flame.

I TOOK one Drachm of this Matter and infus'd it in two Ounces of diſtilled Rain Water, to which I gave a Heat equal, or a little ſuperior to that of the Waters of the King's-Bath; I then decanted and filtrated this Water whilſt hot, and added new Water,

ter, and went through the ſame Apparatus as before, and repeated it to a third or fourth Time, 'till the Water came off quite inſipid; I then dried the Maſs which remained undiſſolved in the filtrating Paper, and weighed it, it weighed one Scruple and five Grains.

The filtrated Water being evaporated to Dryneſs, left behind one Scruple and fourteen Grains of a very white Salt, and ſome Particles of Oil. From whence we may calculate that one Quart of the King's-Bath Water, produces about thirty-five Grains of ſolid Contents; of which about fourteen Grains and half is an Earthy Subſtance, and twenty-one and half a Saline Subſtance.

This Earthy Subſtance, when well dried and powdered, ſome Particles of Iron may be extracted from it, by a good Magnet. It cauſes a ſmart Ebullition with Acids; and when calcin'd in a Crucible, it becomes a perfect Lime.

I WASHED three Drachms of this Reſiduum; evaporated Part of theſe filtrated Waſhings, and ſet the Remainder by to cool, that the Salts might cryſtalliſe. Next Day I viewed this Liquid, and found it was partly ſhot into a ſmall Chryſtalline Salt, which very much reſembled *Glauber*'s purging Salt, both in Figure and Taſte. I then poured off the Liquor which was not cryſtalliſed, and evaporated it again, almoſt to Dryneſs, and ſet it by to cryſtalliſe: When I viewed it again, it had given a ſmall Number of Cryſtals of the ſame Form as the preceding, and the remaining Maſs much reſembled Sea Salt, both in Figure and Taſte; it was not ſo white, becauſe I believe there were ſome Particles of Oil mixed with it, which diſcoloured it. I divided theſe Salts as near as poſſibly I could, and found the former to be a little more than a quarter Part of the whole. So that in twenty-one Grains and half, which is the Quantity contained in one Quart of the King's-Bath Water, there is about ſix Grains of a Salt which I think is of the ſame Nature and Quality of *Glauber's* purging Salt, and about fifteen Grains and half of Sea-Salt.

THESE Salts diſſolved ſeparately, or together, in diſtilled Rain Water; neither cauſe any Commotion with Acids, or Alkalies, nor produce any remarkable Change with Syrup of Violets. Where the Nitre, Sulphur, or Alkaline Salts, which ſome have attributed to theſe Waters is, I know not, I am well aſſured there is no ſuch Thing here. If either Nitre, or Sulphur, had exiſted in the Reſiduum of theſe Waters, certainly they would have yielded a blue or lucid Flame, when they were thrown on a red-hot Iron or Coals, which could not be perceived; but when only one Grain of either of thoſe Subſtances was added, immediately a Flame aroſe, with the Sulphur blue, and with the Nitre lucid.

THEREFORE from what has been ſaid, we may reaſonably conclude that there is neither Sulphur, Nitre, nor Alkaline Salts, in theſe Waters; but the Ingredients which impregnate theſe Waters, and give them their Medicinal Qualities are,

Firſt, AN exalted vitriolic Steel, which flies off in Vapour as the Water cools; the Quantity of this volatile Ingredient cannot be aſcertained.

Secondly, AN abſorbent Earth, about fourteen Grains and half to a Quart of Water.

Thirdly, A SMALL Quantity of more fixed Chalybeat Particles; the exact Quantity cannot be known.

Fourthly, SEA Salt, about fifteen Grains and half to a Quart.

And Fifthly, A SALT very much of the ſame Nature and Quality of *Glauber*'s purging Salt.

HAVING deſcribed the Nature and Qualities of the King's-Bath Water, we will next proceed to thoſe of the Croſs and Hot-Baths. Our late Lecturer on theſe Waters, endeavoured to prove the Waters of the Croſs and Hot-Baths to contain the ſame Quantity of Ingredients, and to be of the ſame Medicinal Virtues, as that of the King's-Bath. Common Experience proves the contrary; and now we will examine into the Nature of theſe Waters, and ſee if we can find any Difference in the Quantity or Quality of their Ingredients from rational Experiments.

WITH four Ounces of the Croſs-Bath Water juſt drawn up at the Pump, I mixed thirty Drops of Infuſion of Galls, as in the former Experiments on that of the King's-Bath, it immediately gave the Water a Purple Colour, but not near ſo ſtrong as that of the King's-Bath; and the Pellicule which appeared on its Surface was very ſmall, ſcarcely to be ſeen. Viewing it eight Hours after, the colouring Matter was entirely precipitated, the Water appeared of a Whey Colour with ſome Shades of Blue, and a ſmall Pellicule was then form'd on its Surface; next Day it appeared much the ſame, only ſome Shades of Green were to be diſtinguiſhed in the Water.

A Glass of the Hot-Bath Water with the former Ingredient, produced the ſame Appearances, only the Purple Colour was ſomewhat more ſtrong than that of the Croſs-Bath; and the Pellicule which appeared on its Surface was more thick.

With a ſecond Glaſs of the Croſs-Bath Water, I mixed four Drops of Spirit of Vitriol, and immediately after the Galls as aforeſaid; it produced the ſame Appearances as with the King's-Bath Water, only the Colours were more pale. The Hot-Bath Water produced near the ſame Appearances, the Colours ſomewhat more ſtrong than that of the Croſs-Bath.

With a third Glaſs of Croſs-Bath Water, I mixed Salt of Wormwood eight Grains, it immediately cauſed an Ebullition, and Milkineſs, but not near ſo ſtrong as with the King's-Bath Water. Viewing it eight Hours after, there was a white ſubtil Matter precipitated, but not ſo much in Quantity as was from that of the King's-Bath. Next Day its Appearances were much the ſame. The ſame Ingredient with the Hot-Bath Water produced near the ſame Appearances, only the Ebullition was ſomewhat ſtronger than with the Croſs-Bath Water.

The Waters of the Croſs and Hot-Bath, mixed with the volatile Salt and Spirit of Hartſhorn, produced near the ſame Appearances

ances as that of the King's-Bath, only the Ebullition, and the Quantity of the precipitated Matters was not ſo great as in that of the King's-Bath.

When I mixed Spirit, or a Solution, of Sulphur, with either of thoſe Waters, in the ſame Quantity as in the former Experiments, it immediately deſtroyed their Gall-tinging Quality, and made the Waters ſomewhat more muddy, as they did that of the King's-Bath.

I heated a Glaſs of Water of each of thoſe Baths, (juſt as it was drawn up by the Pump) ſo as to raiſe the Quickſilver in the Thermometer to 155; their native Heats raiſing it, that of the Croſs-Bath to 115 $\frac{1}{2}$, that of the Hot-Bath to 119. I then mixed the Infuſion of Galls with each as aforeſaid; their Appearances were much the ſame as that of the King's-Bath, only the Pellicules which appeared on the Surface of the Wa-

ters

ters next Day were not ſo thick as was that which appeared on the Water of the King's-Bath.

I MIXED Infuſion of Logwood twenty Drops with a Glaſs of the Croſs-Bath Water, it immediately gave the Water a Violet blue Colour, but not near ſo ſtrong as it gave that of the King's-Bath. Viewing it eight Hours after the colouring Matter was moſtly precipitated, and the Water become of a yellowiſh Colour; next Day its Appearances were much the ſame. The Water of the Hot-Bath produced near the ſame Appearances, only its Violet Colour was ſomewhat more ſtrong than that of the Croſs-Bath.

WHEN I mixed the Spirit or Solution of Sulphur, and the Infuſion of Logwood with each of theſe Waters, they immediately deſtroyed their tinging Quality, the Spirit made the Waters the Colour of Mountain Wine; and the Solution gave the Water a Purple Colour, which remained the ſame when viewed next Day, as the Infuſion had hindered the Sulphur from precipitating.

HAVING proved that there is ſome Difference in the Qualities of the Waters of the King's, Hot, and Croſs-Baths, immediately after they are drawn from their Source; we will now compare the latter with the former when cold, and ſee if they will produce any material Difference then.

HAVING filled Bottles with theſe Waters, and corked them carefully, I ſet them by for two Days, and then repeated the former Experiment. With a Glaſs of the Croſs-Bath Water when cold, I mixed the Infuſion of Galls, it produced no viſible Change in the Water for four or five Minutes; afterwards ſome few Shades of Purple were to be perceived, but theſe very faintly; viewing it ſome Time after, it appeared ſomewhat milky, but no other viſible Change was to be perceived. The Water of the Hot-Bath produced near the ſame Appearances.

WITH another Glaſs of Croſs-Bath Water I mixed Spirit of Vitriol, as in the laſt Experiments, and then the Infuſion of Galls, it produced very near the ſame Appearances, the Colour not heightened in the leaſt; and when viewed next Day no Alteration was to be perceived. That of the Hot-Bath produced the ſame Appearances.

OUR late Lecturer on theſe Waters aſſerts, that the Chalybeat Particles contained in the *Bath* Waters are diſſolved in a volatile Acid; and as the Waters cool, this volatile Principle flies off in Vapour, and the Chalybeat Particles precipitate; then of Courſe its Gall-tinging Quality muſt be loſt; but when a vitriolic Acid is added to the Waters, they re-aſſume their Gall-tinging Quality. But I believe our Lecturer is miſtaken in this Particular,

ticular, or elſe he vainly imagined it; becauſe theſe Waters will not re-aſſume their Gall-tinging Quality after they are cold, when mixed with a vitriolic Acid in any Proportion whatever; and that this is owing to the Volatility of the diſſolved Metal, may be proved from ten thouſand Experiments.

WITH another Glaſs of Water, I mixed Salt of Wormwood as aforeſaid, but it neither produced any more Ebullition, Milkineſs, or Precipitation, than if I had mixed it with any of the common Pump Waters in this Place. That of the Hot-Bath produced much the ſame Appearances.

WITH other Glaſſes of the Waters, I mixed Volatile Salt and Spirit of Hartſhorn, but I could neither perceive any more Ebullition, Milkineſs, or Precipitation, with either of theſe than with the former.

WITH another Glaſs of the Croſs-Bath Water, I mixed Infuſion of Logwood ten Drops; it immediately gave the Water the Colour of the Infuſion, but not the leaſt Shade of Blue was to be ſeen; viewed ſome Time after, its Appearances were much the ſame.

WITH another Glaſs of Water I mixed only five Drops of the Infuſion, very ſoon after it gave a very pale Violet Colour to the Water; viewed next Day, its Appearances were much the ſame. That of the Hot-Bath produced near the ſame Appearances.

WITH another Glaſs of Croſs-Bath Water I mixed Spirit of Vitriol, and the Infuſion of Logwood, it immediately gave very near the ſame Appearances as that in the former Experiment; its Violet Colour not heightened in the leaſt. Theſe mixed with a Glaſs of Hot-Bath Water produced near the ſame Appearances.

The Spirit, or Solution, of Sulphur, mixed with either of theſe Waters when cold, produced near the ſame Appearances as they did when mixed with the King's-Bath Water cold.

From theſe Experiments made on the Waters of the Hot and Croſs-Baths, immediately after they are drawn from their Source, and likewiſe when they are cold, may be plainly proved, that the Volatile Ingredients of the Waters of thoſe Baths, is not near ſo much in Quantity, as are thoſe of the Water of the King's-Bath, neither is the Quantity of theſe Ingredients in thoſe two Waters equal; notwithſtanding what our late Lecturer has aſſerted to the contrary. And as theſe are the chief Ingredients which give the Medicinal Qualities to theſe Waters, it muſt certainly behove every cautious Practitioner to diſtinguiſh theſe Waters with critical Nicety the one from the other, otherwiſe he muſt make himſelf appear very ridiculous.

Having diſcovered ſome Difference in the Quantity of the Volatile Ingredients of theſe Waters, from rational Experiments, as well as from their Effects on the Animal Humours when in Motion; we will next examine the ſolid Contents of theſe Waters, and ſee if any material Difference can be diſcover'd there likewiſe.

Having evaporated ſix Quarts of the Croſs-Bath Water to Dryneſs, in the ſame Manner as I did that of the King's-Bath; (in which as the Water evaporated I obſerved near the ſame Appearances) I carefully collected all the ſolid Contents which remained, which weighed three Drachms and two Scruples. I repeated this Experiment, and gained a ſufficient Quantity of this Matter; and then began to examine into its Nature and Qualities.

I SEPARATED a Part of this Matter, and mixed it with Spirit of Vitriol, it immediately produced a ſtrong Ebullition and Efferveſcence, rather ſtronger than that produced with the ſame Quantity of the Reſiduum of the King's-Bath Water.

THROWN on red-hot Iron or Coals, its Appearances were much the ſame as thoſe produced by the Reſiduum of the King's-Bath Water. When mixed with Sulphur, or Nitre, as was that of the King's-Bath Water, it produced near the ſame Appearances. One Drachm of this Matter waſhed in diſtilled Rain Water, made it a little warmer than the Water of this Bath, in the ſame Manner as was that of the King's-Bath; and the Maſs which remained in the filtrating Paper being dried, it weighed half a Drachm. This Earthy Subſtance being powder'd, ſome Particles of it may be extracted by a good Magnet, but a much ſmaller Quantity, than might be extracted from that of the King's-Bath. This Terrene Matter cauſes a ſmart Ebullition with all Acids; and when calcin'd in a Crucible, it exhibits the ſame Appearances as did that of the King's-Bath.

The filtrated Water being evaporated to Dryneſs, left behind one Scruple, nine Grains and half of a Saline Subſtance, and ſome Particles of Oil. From whence we may calculate that one Quart of the Croſs-Bath Water produces thirty-ſix Grains and half of ſolid Contents; of which about eighteen Grains and half is an Earthy Subſtance, and eighteen Grains a Saline Subſtance.

Six Quarts of the Hot-Bath Water, treated in the ſame Manner, yields three Drachms and thirteen Grains of ſolid Contents, of which about one Drachm and twelve Grains is an Earthy Subſtance, out of which more Particles of Iron may be extracted by the Magnet, than from that of the Croſs-Bath, and two Drachms of a Saline Subſtance. So that one Quart of the Hot-Bath Water produces thirty-two Grains of Reſiduum, of which about twelve Grains is an Earthy, and twenty Grains a Saline Subſtance. The Saline Subſtance extracted from the Waters of both theſe Baths, when refined, appears to be much of the ſame Nature and Quality with that of the King's-Bath; and the Proportion of the Sea Salt, and the bitter purging Salt, contained in the Saline Subſtance of each of theſe, is the ſame, as is in that of the King's-Bath. So that one Quart of Croſs-Bath Water contains about five Grains of a bitter purging Salt and thirteen of Sea Salt. And one Quart of Hot-Bath Water contains about five Grains and half of this bitter Salt, and about fourteen Grains and half of Sea Salt.

FROM our Examination of the Quantity and Qualities of the Ingredients, of the Reſiduum of each of theſe Waters, we cannot find any great Difference; except that the Water of the Croſs-Bath contains a greater Quantity of Earth, and a leſs Quantity of Salts, and Particles of Iron; from whence we may conclude that the Waters of the King's-Bath, and Hot-Bath, after their volatile Particles are evaporated, contain the ſame Quantity of ſolid Contents, which has the ſame Qualities in the one as in the other; and therefore the Medicinal Virtues of the one muſt be the ſame as the Medicinal Virtues of the other. The Water of the Croſs-Bath contains more Earth, and leſs Salts, but theſe of the ſame Nature as the others; therefore this Water when uſed in a larger Quantity muſt be of the ſame Medicinal Virtues as the others.

But when theſe Waters are to be drank immediately after they are drawn from their Source, we have plainly prov'd that their Effects on the animal Humours muſt be very different, as the King's-Bath Water, which contains the greateſt Quantity of that exalted vitriolic Steel, with which theſe Waters are impregnated, muſt certainly increaſe the Velocity of the Circulation, and rarify the Fluids of the Body, much more than the Waters of the other Baths, which are not ſo ſtrongly inpregnated with this volatile Principle; as muſt the Water of the Hot-Bath ſomething more than the Water of the Croſs-Bath, becauſe we have plainly proved that it contains a greater Quantity of this volatile Matter.

From whence we may reaſonably conclude that our late Lecturer is likewiſe in this Particular much miſtaken, or perhaps it was an Overſight of his; but then Perſons who criticiſe on other Men's Works, and if they commit any Error, ſtile them the Doctor *Sangrado*'s of the Age, ſhould be ſure to have their own Works correct; otherwiſe they are as ſubject to Ridicule as thoſe they have expoſed.

A
TREATISE
ON THE
MEDICINAL QUALITIES
OF
BATH WATERS.

PART II.

Of the various Diſeaſes in which theſe Waters may be ſucceſsfully uſed. The Cauſes of thoſe Diſeaſes; and the Operation of theſe Waters, on the animal Humours and Fibres, philoſophically explained.

IN the firſt Part of this Treatiſe, we have explained the Nature and Qualities of theſe Waters, from rational Experiments; and in this Part we propoſe to point out the various Diſeaſes in which theſe Waters may be ſucceſsfully uſed. The Contents of this ſalutary Fluid we have proved to be,

Firſt, A SIMPLE Water heated about twenty-two Degrees above the Blood of a Man in a healthful State.

Secondly, A VOLATILE Vitriolic Steel.

Thirdly, AN abſorbent Earth.

Fourthly, A VITRIOLIC or *Glauber's* Salt.

Fifthly, SOME Sea Salt.

And Sixthly, SOME Chalybeat Particles which are more groſs, and fixed. This is the Medicine we are now to explain the Uſes of in the various Diſeaſes that human Nature is ſubject to.

THESE Waters when cold, may be uſed in various Diſeaſes, in which they would be very prejudicial, if uſed juſt as they are drawn from their Source; as they are deprived,

Firſt, OF their Heat. And

Secondly, OF their volatile Ingredients.

THE Waters of the Hot and Croſs-Baths may likewiſe be uſed in various Diſeaſes, in which the Water of the King's-Bath would be prejudicial. Therefore we ſhall,

Firſt, POINT out the Diſeaſes, in which the King's-Bath Water may be uſed, when juſt drawn from its Source, and uſed internally.

Secondly, THESE in which it will be neceſſary to add Bathing to its internal Uſe.

Thirdly, THE Diſeaſes that may be relieved by the internal Uſe of the Croſs or Hot-Bath Waters.

Fourthly, THE Diſeaſes in which it will be neceſſary to add Bathing to their internal Uſe.

Fifthly, THE Diſeaſes in which theſe Waters may be uſed when cold.

WE will begin our Enquiry with the Diſeaſes of the Stomach and Bowels, commonly called the *primæ Viæ*, in which only the internal Uſe of the King's-Bath Water, will be found of very great Service, and afford a temporary, if not a laſting Relief; and where Bathing therein would be found to be very prejudicial. The firſt of theſe is a Diſeaſe very well known to the Perſons that come here from the hot Climates, and is commonly called Loſs of Appetite. The Cauſe of this Diſeaſe is a very great Relaxation of the

Fibres of the Body, and a Diſſolution of the Fluids. The Fibres of the Coats of the Stomach when in this relaxed State, are not able to give a proper Reſiſtance to the diſſolved Fluids, when thrown thereon by the Force of the Circulation; neither are they of a ſufficient Strength, to throw off theſe noxious Humours by Vomiting or Stool, but an Accumulation of this noxious Matter will be formed on the Coats of this Organ; which not only blunts the Points of that ſharp Humour, which by its gentle Stimulus, creates that ſalutary Senſation called Hunger, but greatly weakens the Powers of Digeſtion. And if there is a Degree of Acrimony in theſe Humours any Thing ſuperior to that of the ſalutary Juices of this Organ, it cauſes a continual Diarrhæa; for an Acrimony of theſe Humours gently ſtimulates the Coats of the Stomach, and enables them to throw off this Matter on the Inteſtines; and theſe Veſſels ſuffering any Degree of Stimulation, above that which is required to keep up their periſtaltic Motion, ſo as to anſwer the ſalutary Intentions of Nature, immediately diſcharge their Contents by Stool.

The internal Uſe of the King's-Bath Water will be found of great Service in this Diſeaſe, eſpecially when the Body is prepared and the Water uſed in the Manner we have deſcribed in the third Part of this Treatiſe. This Water anſwers all the Intentions that are required for the Removal of this Diſeaſe, after the *primæ Viæ* is cleared, as we ſhall deſcribe hereafter. Firſt by its Warmth, Vitriolic, and Chalybeat Particles, it corroborates the Coats of the Stomach, increaſes the Velocity, and ſtrengthens the Texture, of the Maſs of Fluids, which will not only enable the Coats of the Stomach to throw off any noxious Humours which may hang thereon, aſſiſt Digeſtion, and help the Humours of this Organ to excite that ſalutary Senſation call'd Hunger; but when the Velocity of the Maſs of Fluids is increaſed, and their Texture ſtrengthened, they will be rendered incapable of entering into Veſſels undeſigned for their Reception; as the Blood will be rendered incapable of entering into the ſerous Veſſels, and the Serum into the Lymphatics; whence all the ſolid Parts of the Body yet unobſtructed will be ſtrengthened, and their Fibres contracted.

THE Saline Subſtance found in this Water has likewiſe its Uſe here; it's being ſo well diluted by the Chymiſtry of Nature, renders it capable of entering into the moſt minute Veſſels of the Body, and there it has its Effects, by forcing open the Obſtructions of theſe Veſſels; formed by more groſs Particles of the diſſolved Fluids thrown thereon, than ever Nature deſigned for their Reception; and by its gentle Stimulus increaſes their Vibrations, and Contractions; and conſequently the Circulation in theſe Veſſels.

From whence we may plainly ſee what ſalutary Effects this Water may have on the Bodies of Perſons labouring under this Diſeaſe, when uſed internally, with proper Inſtructions; and we will in the next Place point out the ill Effects, bathing in this Water muſt have on the Bodies of thoſe People; both from Reaſon and Experience. I have been not a little ſurprized, ſince I have been at *Bath*, to ſee Phyſicians of great Practice, order Patients Bathing in this Diſeaſe, particularly thoſe who came from the hot Climates, notwithſtanding the ill Succeſs that very often attends it, and muſt always, if the Perſons are not of good Conſtitutions; what their Reaſons for it are, I know not, but am well aſſured that it is contradictory to all the Laws of the Animal Oeconomy.

We will firſt deſcribe the Effects Bathing in this Fluid has on a Perſon of a good Conſtitution when in Health, and then we ſhall be the better able to judge of its Effects on the Bodies of thoſe which labour under this and many other Diſeaſes. A Perſon in Health, when he enters the Bath of a Morning, finds himſelf very tranquile and eaſy, his Pulſe beats about ſixty-ſix Times in a Minute, (ſome more ſome leſs, according to the Nature of their Conſtitution, but what I have inſerted is a Medium) he has not been long in this Fluid, before he finds himſelf very uneaſy, his Pulſe now beats ſeventy-two Times in a Minute, his Face appears red, and his Veins very much ſwell'd; when he has continued about twenty Minutes in the Bath, he is almoſt ready to faint, his Pulſe now beats eighty-five Times every Minute, his Face and Parts above Water are as red as Scarlet, he has a violent Head-Ach, and his Veins are ſwell'd almoſt ready to burſt; in this Condition he comes out of the Bath, and afterwards in his Bed ſweats violently, which decreaſes the Velocity and allays the Rarefaction of the Fluids, and of Courſe all his feveriſh Symptoms go off. I ſhould likewiſe obſerve, that Perſons which bathe in this Fluid have been thought to imbibe a great Quantity of it in through the Pores of the Skin; but I can aſſure the World to the contrary, having weighed Perſons when they entered and when they came out of the Bath, and found the Difference very immaterial, their Weight being rather leſs when they came out, than when they went in.

FROM whence we may conclude, that Bathing in this Fluid greatly increaſes the Velocity and Rarefaction of the Fluids, and does not dilute them, by entering the Body through the Pores of the Skin, as ſome have imagined, and conſequently muſt bring on a Train of feveriſh Symptoms, without heating the Stomach or internal Parts, which muſt be very ſalutary, and greatly tend to relieve ſuch Diſeaſes as we have pointed out to be relieved by this Means; but in the Diſeaſe we are now treating of, it muſt be very prejudicial for the following Reaſons.

Firſt, WHEN the Fibres of the Body are greatly relaxed, which is the Caſe in the Diſeaſe we are treating of, Bathing in this Fluid will not ſtrengthen them; indeed it does not greatly relax becauſe it is impregnated with ſome aſtringent Ingredients, but they are not of ſufficient Force to brace the Body, when externally applied; except it be where a Load of cold vicid Humours hang on the Veſſels in the Surface of the Body, there indeed this Fluid may conduce to remove this Matter, by increaſing the Velocity and Rarefaction of the Fluids, which ſets this vicid Matter in Motion, and cauſes it to perſpire off through the Pores of the Skin, or be re-aſſumed by the re-fluent Blood, and thrown off by the larger Outlets of the Body; this done, the Fibres of the Body will naturally contract themſelves.

Secondly, BY Bathing in this Fluid, the Fluids of thoſe whoſe Veſſels are much relaxed, are much more rarified, and their

Velocity much more increaſed; becauſe they have not that Reſiſtance from the Solids that the Fluids of thoſe have whoſe Solids are ſtrong and braced.

Thirdly, WHEN the Fluids of the Body are greatly diſſolved, ſuch an additional Velocity and Rarefaction, as is given them by Bathing in this Fluid, muſt greatly increaſe their Diſſolution, and of Courſe drive this diſſolved Maſs into Veſſels not deſigned for its Reception; as the Contents of the Veins, will be driven into the ſerous Veſſels, and the Contents of the ſerous Veſſels, into the Lymphatics; and a Perſon of the meaneſt Capacity will be able to judge what Confuſion this will create in the Body. From hence we may plainly ſee how detrimental this Practice muſt be, and greatly admire regular Practitioners ſhould be ſo deceived, and perſue a Practice which is contrary to Reaſon, and the Laws of the animal Oeconomy.

HAVING given a rational Account of this Diſeaſe, and the Reaſons how and why this Water ſhould be uſeful therein; we will in the next Place point out another Diſeaſe of this Organ which is ſomething of the Nature of the former, although it ariſes from a different Cauſe. This Diſeaſe is commonly called a Weakneſs of Digeſtion; is very well known to the Inhabitants of theſe Kingdoms of *Great Britain* and *Ireland*, and particularly to thoſe who have lived a debauched Courſe of Life, or have drank large Quantities of ſpirituous or vineous Liquids. The Cauſe of this Diſeaſe is whatever relaxes the Coats of the Stomach and Chyliferous Veſſels, as Crudities and groſs Humours, or vicid Phlegm, which adheres to the Coats of this Organ, and prevents the Fibres from contracting themſelves, to throw off the Load which lies on them; by which they are rendered inactive, and conſequently relaxed. This Diſeaſe may likewiſe be cauſed by whatever too ſtrongly ſtimulates the Coats of the Stomach, and Powers of Digeſtion; as high ſeaſon'd Food, or ſpirituous or vineous Liquors; by which thoſe Veſſels are rendered callous, and inſenſible, ſo that they let the Aliments run off crude and undigeſted; and nothing but the ſtrongeſt ſpirituous Liquors will move the Fibres of thoſe Veſſels to Action. An Obſtruction of ſome of the large Veſſels of the Body always attends this Diſeaſe, ſometimes more, ſometimes leſs; and they are generally obſtructed by the Contents of the larger Veſſels being forced into thoſe that are ſmaller, which is commonly called Error of Place; for when the Veſſels of the Body are ſo ſtrongly ſtimulated, by high-ſeaſon'd Sauces, ſpirituous or vineous Liquors, their Action on the contain'd Fluids muſt be conſiderably increaſed, above whatever was deſign'd by Nature; and if Part of theſe Fluids are not forced into the ſmaller Veſſels, a Rapture muſt be immediately cauſed, which very likely might be attended with immediate Death, or at the beſt with very dangerous Symptoms.

When we find a Sickneſs at Stomach, eſpecially in the Mornings, and when the Weather is very cold, the external Veſſels of the Body contracted, and the Perſpiration leſſen'd, with a nauſeous Belching and Want of Appetite; we may conclude that the Stomach is relaxed from groſs Humours, Phlegm, *&c.*; but when with the aforeſaid Symptoms we find a Coldneſs of the Stomach, which will not be removed except with the ſtrongeſt of ſpirituous or vineous Liquors, with a Vomiting of vicid Phlegm; we may conclude that the Stomach has been too ſtrongly contracted or ſtimulated, and that there is a Calloſity of its Fibres.

In this Diſeaſe likewiſe the internal Uſe of the King's-Bath Water will be found of great Service, after the Body has been properly prepared; it anſwers all the Intentions that are required for the Removal of this Diſeaſe, (after the *primæ Viæ* is cleanſed by proper Evacuations) more eſpecially if we add to every Glaſs of Water juſt drawn from the Pump two or three Grains of Salt of Steel, which will greatly increaſe its Virtues in this and many other Diſeaſes, which we ſhall deſcribe. By theſe the Coats of the Stomach will have an agreeable Warmth, and be gently ſtimulated; the Texture of the Blood will be ſtrengthen'd, and its Velocity ſomewhat increaſed; its vicid Parts diſſolved, and the whole Maſs rendered incapable of entering into Veſſels undeſign'd for its Reception; and if the Diſeaſe has not been of long ſtanding, or grown very ſtubborn, a laſting Cure may be expected.

BATHING in this Diſeaſe, will likewiſe be attended with bad Conſequences; as one or more of the great Organs of the Body are generally obſtructed, the Fluids are for the moſt Part hot and acrid, and very much corrupted, from the undigeſted Chyle. From whence we may reaſonably conclude that they are not capable of receiving that Rarefaction and increaſed Quantity of Motion, which they muſt receive when the Body is bathed in this Water, without endangering a Rupture of ſome of the Veſſels, or forcing the Contents of the larger Veſſels into thoſe that are ſmaller, and increaſing the Obſtructions, or bringing on an Inflammation of the Parts already obſtructed; whereas by the internal Uſe of this Fluid, the Fluids of the Body will be properly diluted, their Velocity gently increaſed, and their vicid Parts diſſolved; whereby the Obſtructions will be forced open, and the Fibres greatly ſtrengthened; which muſt make this Water of great Service in this Diſeaſe.

THE next Diſeaſe we ſhall treat of, which may be very much relieved by the internal Uſe of this Water, is the bilious Cholic; a Diſeaſe very well known to all the Inhabitants

tants of *Europe*, and is very often attended with fatal Symptoms. This Diſeaſe is cauſed by too great a Diſſolution or Attenuation of the Bile, and a Relaxation of the Fibres of the biliary Ducts; by which too great a Quantity of this acrid Fluid is forced into the Inteſtines, and there, by its Acrimony and violent Stimulus, brings on thoſe violent Pains and Spaſms, which are well known to be the Symptoms of this Diſeaſe.

THIS Water will be found to be of great Service in this Diſeaſe, after the *primæ Viæ* is cleanſed, and the violent Spaſms abated; as it muſt by its acid aſtringent Quality, ſtrengthen the Texture of the Bile, and blunt its Acrimony; and at the ſame Time, brace up the relaxed Fibres of the biliary Ducts. It likewiſe muſt dilute, blunt, and correct the Acrimony, of the Bile which is already thrown on the *primæ Viæ*, and at the ſame Time corroborates the Fibres of this Canal, by which they will be enabled to promote the Expulſion of this acrid Matter by their proper Emunctory, and likewiſe give a proper Reſiſtance to, and prevent an Accumulation, of the Bile or any other Humour.

THIS Water will be found equally beneficial in the hyſteric Cholic; a Diſeaſe very well known to the Female Sex, and eſpecially to thoſe who make too free with their Conſtitution by luxurious Living. The Cauſe of this Diſeaſe is the ſame as was that of the laſt, and its Effects would be equally the ſame if the Fibres of the Body of the Female Sex, were of equal Strength with thoſe of the Male; this Diſeaſe would have the ſame Appearances in the one as in the other: But as the Fibres of a Female is much weaker than are thoſe of a Male, a Degree of Stimulation, which to the Male would create only a ſmart Pain, muſt to the Female create violent Spaſms, and Irregularities of the nervous Fluids. From whence we may plainly ſee that the Bile ſtimulating the Coats of the Inteſtines, in the Male creates a violent Pain, and Spaſms of the Inteſtines, which is commonly called the bilious Cholic, and in the Female creates a violent ſpaſmodic Motion of the *primæ Viæ* and very often of the whole Body, an irregular Motion of the nervous Fluid, with great Anxiety and ſinking of the Spirits, which is commonly called the hyſteric Cholic. After the *primæ Viæ* is properly cleanſed this Water will be found to anſwer all the Intentions of Cure in this Diſeaſe as well as in that of the laſt; more eſpecially if in this we add four or five Grains of volatile Salt of Amber to every Glaſs of the Water which the Patient drinks.

BATHING in this Water will likewiſe be found very detrimental in theſe bilious Diſeaſes; as the great Rarefaction, and increaſed Quantity of Motion, which the Fluids of the Body muſt receive from Bathing in this Fluid, will increaſe the Diſſolution and Acrimony of the Bile; by which the Irritation, and conſequently the Pain and Spaſms, of the Bowels will be increaſed.

The next Diſeaſe we ſhall treat of, which may be much relieved, if not entirely cured by this Water, is the Jaundice; a Diſeaſe very well known to all People on this Part of the Globe, and is very often ſtubborn, and difficult of Cure. The Cauſes of this Diſeaſe are various: As it may be cauſed by whatever obſtructs the biliary Ducts, and hinders that Fluid from having a free Paſſage into the Inteſtines. As ſtony Concretions falling down from the Gall-bladder into the Duct, very often give Riſe to this Diſeaſe, by obſtructing the Courſe of the Bile into the Inteſtines. Too great a Vicidity of that Fluid may likewiſe give Riſe to this Diſeaſe, by obſtructing its ſecretory Glands; and the ſmall Quantity of it which is ſecreted, ſtagnates in the hepatic Ducts, and very often cauſes an Obſtruction or Schirrhoſity of the Liver.

WHEN either of theſe is the Cauſe of the Diſeaſe, there is a Heavineſs and Senſe of Weight in the right Hypochondre; the Body for the moſt Part will be bound, and the Excrements not tinged yellow; the Urine will be the Colour of Saffron; the Skin, Eyes, and Nails of the Fingers will be tinged yellow, and the Patient will be very inactive and ſluggiſh. This Species of the Jaundice generally attacks People who ſpend their Time in a ſedentary Manner, without proper Exerciſe.

THIS Diſeaſe may likewiſe be cauſed by whatever diſſolves the Bile, and renders it too thin, hot, and irrating: And when the Jaundice takes its Riſe from the Diſſolution of the Bile, it may be known by the following Symptoms.

First, A DIARRHÆA, with ſlight Fits of the bilious Cholic.

Secondly, SPASMS will be felt near about the Region of the Liver, occaſioned by the hot acrid Bile irritating the Coats of its Ducts, in its Paſſage from the Liver to the Inteſtines.

Thirdly, BY the Urine, Skin, Eyes, *&c.* not being ſo deeply tinged with yellow as in the other Species of the Diſeaſe.

And fourthly, IF the Diſeaſe is of any Time ſtanding an Inflammation of the Liver may be expected.

THIS Water will be found very beneficial in both Species of this Diſeaſe, eſpecially when join'd to the following Medicines, and riding on Horſeback or in a Carriage; then, they will be found, for the moſt Part, to entirely eradicate the Diſeaſe. In the former Species we join the following Medicines with the Bath-Water.

TAKE of Alkalized Mercury half a Drachm; Conſerve of Hips Quantity ſufficient; mix, for a Bolus. To be taken in the Evening going to Bed, next Morning early taking the following Draught.

TAKE of the beſt Manna one Ounce; Water Gruel two Ounces; mix, and add of the beſt Rhubarb powder'd, and Salt Diuretic, of each one Scruple, mix.

LET this Bolus and Draught be taken once every ſeven Days; and on the intermediate Days let the Bath-Water be drank, four or five half Pint Glaſſes of it every Day, and in each Glaſs diſſolve five or ſix Grains of the volatile Salt of Amber; this Method will entirely eradicate this Diſeaſe, if it is in the Power of Medicine to do it.

But when we find by the Symptoms that the Diſeaſe owes its Riſe to the Diſſolution and Acrimony of the Bile, the foregoing Method ſhould be omitted, and the following perſued. Let a Purge of Rhubarb be adminiſtered once every ſix or ſeven Days to carry off the hot acrid Bile which is thrown on the Inteſtines, and gives riſe to the violent Diarrhæa which for the moſt Part accompanies this Species of the Diſeaſe; and on the intermediate Days, let this Water be uſed as directed in the laſt, only inſtead of the volatile Salt of Amber, let ten Drops of Spirit of Vitriol be mixed with every Glaſs of Water which is drank. This will be found too blunt and abſorb the ſharp Points of that bilious, or alkaline, Humour which is now ſo predominant in the Body, and will greatly relieve, if not entirely eradicate, the Diſeaſe.

Bathing in this Water will be found very prejudicial in both theſe Species of the

Jaundice; in the firſt it will endanger Spaſms or an Inflammation of the biliary Veſſels by the rarified Bile not having a free Paſſage into the Inteſtines. In the ſecond it will greatly increaſe the Heat and Acrimony of the diſſolved Bile, and endanger an Inflammation of the Liver, and many other Diſeaſes too tedious to mention.

THIS Water will likewiſe be found to be very beneficial in all Diſeaſes where there is a Redundancy of this Alkaline Humour, without an Inflammation, after the Body has been properly prepared; particularly thoſe Diſeaſes of the Stomach where this hot acrid Fluid is predominant. In thoſe Diſeaſes, if *Elix.* of Vitriol, twenty Drops, was added to every Glaſs of Water, it would make it much more beneficial; as that would not only increaſe its Acidity and make it much more powerful for abſorbing the ſharp Points of the Bile, but it would likewiſe greatly conduce to ſtrengthen the Coats of the Stomach, and Texture of the Fluids.

THE next Diſeaſe we ſhall point out, that may be much relieved, by the internal Uſe of this Water, after the Body has been properly evacuated, is the Obſtruction and Irregularities of the Menſes; a Diſeaſe very well known to moſt of the Female Sex, and is very often attended with dangerous Conſequences.

THE Cauſe of the Stoppage or Irregularity of the menſtrual Diſcharge is a Lentor or Vicidity of the Blood, and a Relaxation of the Fibres; whereby this Fluid becomes incapable of forcing the Sphincters of the Ducts deſtined by Nature for this Evacuation. For it is not from a Rapture of the Arteries of the Uterus, which is the common Opinion, that the Blood iſſues every Month, but from Veſſels appropriated to this Office. And this Lentor or Vicidity of the Blood changes the lively Colour of the Face into a Greeniſh pale and wan Complexion.

THIS Water will be of great Service in this Diſeaſe, and very often cure it; but its Efficacy will be greatly increaſed, if, to every Glaſs of Water which is drank, there be added three or four Grains of Salt of Steel, and the Patient uſe gentle Exerciſe, ſuch as her Strength will bear. By theſe the Lentor and Vicidity of the Blood is broke and diſſolved, its fine Globules developed, and the Fibres of the Body are greatly ſtrengthened; by which this Fluid will be rendered capable of forcing the Spincters of the Ducts deſtined for its Evacuation.

BATHING in this Water muſt be very prejudicial here, eſpecially if the Patient is young and plethoric; for when this Evacuation is obſtructed the Quantity of the Fluids will be greatly increaſed, and the

Solids of the Body relaxed, becauſe the Quantity of the Fluids overpowers their Action, and conſequently the Motion of the Fluids will be decreaſed; from whence ariſes their Lentor and Vicidity. And the Degree of Motion, and Rarefaction, which the Fluids muſt have from Bathing in this Water, would not only bring on an Inflammation, but endanger a Rupture of ſome of the large Veſſels of the Body.

THERE is another Diſeaſe incident to the Fair Sex, which may be much relieved by the Uſe of this Water, more eſpecially when join'd with a proper Regimen and Exerciſe; I mean Sterility, a Diſeaſe very common to the Females of this and the neighbouring Kingdoms, particularly to thoſe of Figure and Quality; and there is no Nation in the known World, where great and opulent Families ſooner become extinct, or change Lineage ſo quickly, as they do in England. However we ſhall not lay all the Blame for this to the Females, becauſe it may be plainly demonſtrated that the Fault is altogether in the Males very often, occaſioned by their debauched Courſe of Life, and voluptuous Living; but we will leave this to diſcourſe of another Time, and point out the Cauſes, and Method of relieving this Ail, in that lovely Sex, who, by the Tyranny of the Men, and Cuſtom, are tied down to many Reſtraints, (which Men deſpiſe) are more temperate, abſtemious, and modeſt.

THIS Diſeaſe may be cauſed, Firſt, By a Mal-formation of the Parts of Generation; and then all human Art for its Relief is in vain.

Secondly, BY whatever cauſes a Lentor and Vicidity in the Fluids, and a Relaxation of the Fibres.

Thirdly, BY whatever breaks and diſſolves the Texture of the Fluids, and cauſes too great a Heat and Acrimony of the ſame. A Lentor and Vicidity of the Fluids, and a Relaxation of the Fibres, give Riſe to Obſtructions of the menſtrual Evacuations, which entirely hinders Conception: And a Diſſolution and Acrimony of the Fluids produces too great a Flux of theſe Diſcharges, which muſt likewiſe hinder Conception, and if the Woman has conceived muſt promote Abortion.

When the firſt of theſe is the Cauſe of this Diſeaſe, Bath-Water uſed internally will be found of infinite Service, after the Body has been properly prepared, eſpecially when to every Glaſs of the Water the Patient drinks, there be added two or three Grains of Salt of Steel, as we have hinted before, and theſe with a ſtrict Regimen, and gentle Exerciſe.

But where the Diſeaſe owes its Riſe to a Diſſolution and Acrimony of the Fluids, the

Bath-Water is not ſo efficacious, except it be join'd to a ſtrict Regimen of Milk, Vegetables, and white Meats; carefully avoiding all high-ſeaſon'd Sauces, and all Kinds of Liquors ſtronger than Milk, Water, or ſmall Beer; and to every Glaſs of Water drank there be added of *Elix.* of Vitriol ten or twelve Drops, and of Tincture of the Peruvian Bark twenty Drops; for by the Addition of theſe the natural Qualities of the Bath-Water will not be altered in the leaſt excepting its being made a Medicine more aſtringent and corroborative, by which the Texture of the Blood will be ſtrengthened, and its Heat and Acrimony deſtroyed, and conſequently muſt entirely remove this Diſeaſe.

The next Diſeaſe I ſhall point out, which may be much relieved, and very often cured, by the internal Uſe of the Bath-Water, is the hyſteric Paſſion; a Diſeaſe very well known to moſt of the Female Sex, eſpecially to thoſe of weak Fibres, who uſe very little Exerciſe, and feed on hot and acrid Aliments. The Cauſe of this Diſeaſe is a Relaxation of all the Fibres of the Body, and an Indigeſtion and Vicidity of the Fluids; from whence muſt ariſe,

Firſt, OBSTRUCTIONS of all the capillary Veſſels of the Body, from the Fluids not having a proper Degree of Thinneſs and Velocity.

And Secondly, AN Acrimony of the ſame from their inteſtine Motion.

Now an hyſteric Fit is a convulſive Motion, exerted from the mechanical Powers of the Nerves diſperſed throughout the Body, whereby they endeavour, through a mechanical Neceſſity, to reſolve the Obſtructions, to diſcharge the oppreſſive Load ſo diſturbing to the Body, and recover the animal Springs to their natural Tone and Elaſticity

again,

again. But before we proceed to enquire into the Nature of this convulſive Motion, and how the Machinulæ of the Nerves are put upon thoſe convulſive Motions, in all Cauſes, where they ſuffer any Obſtructions, Relaxations, or are let down below their natural Standard, we ſhall take Notice of ſome particular Symptoms which attend this Diſeaſe, and enquire into their Nature and Cauſe.

It was the Opinion of the antient Phyſicians that all theſe various Symptoms that affect the Conſtitutions of weakly Women, under the Denomination of Vapours and hyſteric Fits proceeded from the Womb; but upon examining the Cauſes, according to the genuine Laws of Nature, we ſhall diſcover that the Womb, under the Vapours and hyſteric Fits, ſuffers no otherwiſe, but as there is a general Weakneſs in the Action of all the animal Organs; and as the Stomach and Bowels are incapable of diſcharging their ſeveral Contents, ſo the Fibres of their Arteries, which give Force to the Circulation, muſt neceſſarily abate of their Vigour, and conſequently the Womb itſelf be incapable of throwing off its Monthly Purgations, through a Weakneſs of its arterial Veſſels.

Now as a rarified Humour mixed with ſome Air ſupplies us with the greateſt Number of Symptoms, in this Diſeaſe; as their firſt Scenes are for the moſt Part acted in the Stomach, ſo I think it will be highly neceſſary that I ſhould firſt conſider the Production of this Vapour, before I proceed to other Enquiries.

NOTHING can be more certain than that the Organs of every Part of the Body are compoſed of Arteries, Veins, Nerves, and other Veſſels, which are ſubſervient to the Laws of the circulating Fluids, and which convey a Liquid for the Nouriſhment of the ſeveral Parts; the Fluid conveyed by the Arteries and Veins gives Heat and Motion, and the Nerves Strength and Senſation to every Part. To theſe Powers united, the Stomach owes its contracting Force, the Inteſtines their periſtaltic Motion, and the Lungs their Contraction and Dilatation.

While the Fibres of the Coats of the Stomach are capable of digeſting the Aliments, and giving them a proper Degree of Diſſolution for Chyle, the ſame Powers will readily diſcharge it into the Inteſtines or Guts, to be received into the Lacteals, without any Stop or Hindrance; then none of theſe Symptoms are preſent, and if the Offices of the ſecond and third Stages of Digeſtion are regularly carried on, the Body is free from Diſeaſes, eſpecially from theſe commonly called nervous. But when, thro' a Languor or Weakneſs of the Fibres of the Coats of the Stomach, the new made Chyle, or Meats ſcarcely digeſted into Chyle, continue in the Stomach longer than is conſiſtent with the Laws of Nature, then, by the inteſtine Motion of this heterogenous Maſs of Matter, there will be generated a great Quantity of this rarified Humour and Air, which will make its Way, according to the greater or leſſer Reſiſtance it meets with, from the greater or leſſer Force of the muſcular Fibres, that compoſe the ſuperior or inferior Orifice of the Stomach.

WHEN the Reſiſtance is leaſt in the ſuperior Orifice, then this Vapour will force its Way upwards by the Mouth, and diſcharge itſelf in windy Gulps, and Belchings; and the longer theſe Meats lye in the Stomach, the greater will be their inteſtine Motion, and conſequently the greater will be the Quantity of Vapour which is ſent off from this Organ; which, if the Aliments have been long retained in the Stomach, is ſo hot, as almoſt to inflame the Gums, Jaws, and Parts adjacent.

But when the Reſiſtance of the ſuperior Orifice of this Organ, is greater than is that of the inferior, then is this Vapour impelled into the Inteſtines, always forcing its Way into thoſe Parts where it meets with the leaſt Reſiſtance, according to the Nature of all Fluids equally preſſed; and, in this Deſcent, by differently diſtending the Coats of the Inteſtines, it furniſhes out thoſe Vapours, and rumbling Pains, that moſt vapouriſh Women are ſubject to ſome Time after a full Meal, or a little before the Invaſion of the hyſteric Paroxyſm; nor do theſe Vapours ſpend their ill Effects here, for they very often get into the Fibres of the Stomach, and give Riſe to that diſagreeable Senſation commonly called the Heart-burn, or Cardialgia.

Having pointed out the Cauſe of ſeveral of the moſt oppreſſive Symptoms of this Diſeaſe, we muſt now return to our Subject propoſed, *i. e.* to explain the Reaſons how and why the Machinulæ of the Nerves are put upon theſe convulſive Motions, in all Caſes, where they ſuffer any Obſtructions, Relaxations, or are let down beneath their natural Standard: But, now I am almoſt at my *ne plus ultra*, this opens to my View ſuch a perplexing Scene, that I can ſcarce tell where to begin, or what Foundation to build my Structure upon; however I will do my beſt to explain the Thing propoſed, which if it does not happen to pleaſe the Taſte of the candid Reader, it may at leaſt afford ſome Hints to thoſe of greater Abilities who attempt to explain the Cauſe of this Diſeaſe, according to the genuine Laws of Nature.

FROM all the Obſervations I have been able to make, both Phyſical and Anatomical, and likewiſe from the Opinions of the greateſt Philoſophers both ancient and modern, it plainly appears, that the Brain is the Index of the Nerves, the ſame as the

Heart is of the Arteries; and as the Heart and the Contents with which it furniſhes the Arteries are the Inſtruments of natural Heat and Motion, ſo the Brain and Nerves are the Springs that furniſh the ſeveral Organs of the Body with natural Strength, Senſation, and voluntary Motion: And as the former, from any Cauſes that will ſtimulate their Fibres, rarify or condenſe their Contents, raiſe, or depreſs, their Contractions above or beneath the Laws of Nature, will infer a greater or leſſer Degree of Heat and Motion, than is conſiſtent with the Laws of the Animal Oeconomy; ſo the latter, from any Cauſe which will ſtimulate their Fibres, rarify or condenſe, their Contents, exalt, or depreſs, their Motions, will neceſſarily infer a greater or leſſer Degree of Strength, Senſation, and involuntary Motion, in the ſeveral Organs of the Body, than the Laws of the Animal Oeconomy requires they ſhould be.

From what has been ſaid, the hyſteric Fits, will appear to have a very near Reſemblance with thoſe violent Efforts Nature makes to throw off her oppreſſive Load, commonly called Fits of Agues and intermitting Fevers; and I have myſelf been Eye Witneſs of a great many Caſes, where the hyſteric Fits have attacked the Patient at ſtated Periods; and obſerve all their Stops, Stages, and Returns, as regularly as any Ague whatever; I have likewiſe ſeen ſome Scores of Examples where the Peruvian Bark have entirely removed the Diſeaſe when all other Medicines have failed.

Since there ſeems to be ſo near a Reſemblance between intermitting Fevers and the Hiſteric Paroxyſms, we will argue this Point a little farther.

We may evidently perceive in intermitting Fevers, that the vicid Blood ſtagnating in any of the capillary Veſſels of the Body, or indeed in the larger Veſſels, will increaſe the Quantity of this Fluid in thoſe that remain unobſtructed; upon which the Heart will receive a greater Quantity of this Fluid than the Arteries would naturally charge upon it, under when the Veſſels are all pervious and the Body in Health: The Quantity of this Fluid being increaſed, and charged upon the Heart, muſt conſequently oblige it to redouble its Force; for the Heart being a ſolitary Muſcle, is capable of increaſing or decreaſing its Motions, according as it meets with a greater or leſſer Reſiſtance, which impels the Fluids to the Surface of the Body with a greater or leſſer Impulſe, and conſequently diſcharges the obſtructing Corpuſcles by a free Breathing, that ſolves the Fit, and would the Diſeaſe likewiſe, did not the Relaxation of the Fibres of the Body remain, which ſuffers the Fluids to be again accumulated, and run into the ſame preternatural Coheſions and Contacts, whereby another Paroxyſm will be abſolutely neceſſary to throw off the offending Load, and ſo on, till the Solids of the Body are braced up to their natural Tone.

Now to what can we ſo properly aſſign the Cauſes of thoſe violent Efforts of Nature, of that great Strength and Force, with which ſome hyſteric Women exert their Arms, Legs, and whole Body, but to the Heat and Acrimony of their Juices violently ſtimulating, and conſequently violently contracting, thoſe Inſtruments of Strength the Nerves? And the greater the Quantity of this acrimonious Juice is in the Body, the greater and more violent will be thoſe convulſive Motions, or Efforts of Nature, to throw off this acrid Matter, reſolve the Obſtructions, and diſcharge the Body of a Load oppreſſive to Nature.

In this Action or convulſive Struggle of the animal Organs, the Machinulæ of every Fibre of the Body, are always drawn over each other, and conſequently greatly beyond their Spheres of Contact; which, upon their Receſſion fall not directly in their proper Spaces, but are drawn down beneath their Spheres of Contact, in Proportion to their Elevation above it when violently contracted; this is well known to be the Nature of all ſpringy or elaſtic Bodies, that are immediately let looſe when under a State of Violence.

In all hyſteric Paroxiſms, the nervous Syſtem is either fixed in a continued Convulſion, as appears to be the Caſe under thoſe violent Paroxyſms commonly called ſtill Fits, which ariſes from an over violent Contraction of the nervous Fibres, wherein all their Machinulæ are drawn over their Spheres of Contact, and remain ſo during the Time of the convulſive Struggle, or are affected with divers Spaſms, Tremors, and involuntary Motions, wherein the ſeveral Organs are cruelly agitated and convulſed.

In theſe violent convulſive Motions which attend this dreadful Diſeaſe, the Machinulæ let go theſe Contacts, in which they ſtand during the Convulſion, in the ſtill Fits, and are violently affected with divers retrograde Motions, which excite a much ſtronger, and more powerful Motion in the Fibres, and of Courſe in the ſeveral Organs and Muſcles of the Body, in Proportion to the Force of the Cauſes.

Very often in hyſterical Women, there are unuſual Motions in the Bowels, great Swellings in the Hypochondres, and a Heaving from the lower Parts of the Belly, as if ſomething was inwardly aſcending to the ſuperior Organs: Theſe Symptoms proceed entirely from windy Vapours, which are forced into the upper Parts, by the violent Contraction of the Fibres, during their convulſive Motions.

Many hyſterical Women, which labour under the ſevere Attacks of this Diſeaſe, entirely looſe the Uſe of all their Senſes, and very often of their voluntary Motions: The firſt of theſe happens when the nervous Fibres are contracted ſo far above their natural Standard, that the ſeveral Organs are thereby render'd incapable of receiving the Impreſſion of Objects, or conveying them to the Seat of the common Senſorium; this is the Caſe generally, both under the ſtill Fits, and thoſe that are attended with violent convulſive Motions. The ſecond proceeds from the too great Receſſion of the Fibres, after they have been in this State of Contraction; as they very often fall ſo much below their natural Standard that they cannot contract themſelves again, ſo much as is requiſite to perform the Motions of the Body.

And as there are two Extremes of Motion in the animal Fibres, the one wherein all the Ideas of Senſation are very much abated, and ſometimes entirely loſt, the other where the voluntary Motions are greatly weakened, oftentimes irreparable: So is there a third Extreme, where the Idea of Pain, and, conſequently Senſation is greatly increaſed. To this Origin we may reduce thoſe violent Pains of the Head, thoſe ſevere Cholic Pains, that very often torment hyſteric Women, with Tortures as much as human Nature is able to bear.

In Caſes of this Kind the nervous Fibres are too violently contracted from ſtimulating Bodies, by which the Fibres that compoſe the ſeveral Organs are wrought up to too great a Tenſion, or Rigidity: Upon which the Object of Pain is ſtruck upon the Mind with very great Vehemence; ſo that, in Regard to theſe Pains, we are to conſider the ſtimulating Matter, the violent Contraction and Tenſion of the Fibres, Senſation, and Perception; for it is the ſtimulating Matter in any Part, that Occaſions the violent Contraction and Tenſion of the Fibres; the Contraction and Tenſion of the Fibres the Senſation, and the Senſation the Perception of Pain; whereby its different Degrees are conveyed to the Mind or Seat of the common Senſorium.

HAVING pointed out the Cauſe of this Diſeaſe, in the beſt Manner I am capable of, it remains now for me to prove how Bath Water may be of great Service for its Relief.

BATH Water, when uſed in the Manner we ſhall hereafter propoſe, and after the Body has been properly evacuated, dilutes the Humours of the Body, and abſorbs their Saline Spiculæ, by which their violent Stimulus and all its Conſequences will be deſtroyed; it diſſolves their Vicidity, and gently ſtimulates the Fibres to Contraction, by which the Obſtructions will be forced open, and the Solids brought to their proper Contractions:

tractions: And the Virtues of this Fluid will be greatly increaſed for anſwering theſe Intentions, if it be mixed with the following Ingredients, (*i. e.*) Firſt, when the Patient begins to drink this Water, ſhe ſhould mix five or ſix Grains of Salt of Amber with every Glaſs, and continue this Courſe for four or five Weeks; afterwards omit this Salt and add the following Ingredients, to every Glaſs of Water which is drank.

Of Salt of Steel four Grains, and of Tincture of the Peruvian Bark one Drachm. Neither of theſe will decreaſe the Efficacy of one Ingredient with which the Bath-Water is compoſed, but on the contrary greatly increaſe their Efficacy; the former will greatly aſſiſt this Fluid to abſorb the Alkaline Acrimony or Saline Spiculæ of the Fluids, diſſolve their Vicidity, and force open the Obſtructions; and the latter will greatly increaſe its corroborating Quality, ſtrengthen the

Texture of the Fluids, and brace up the relaxed Solids.

If with the Uſe of theſe the Patient join a Regimen of white Meats, Milk and Vegetables, and gentle Exerciſe; carefully avoiding all high-ſeaſon'd Sauces, or Meats, Wine or any Kind of Spirituous Liquor, Teas, *&c.* and where ſhe is not paſt the Meridian of Life, ſhe may depend on having a laſting Cure performed by the Uſe of theſe; or if ſhe is paſt the Meridian of Life, very much Relief.

Bathing in this Diſeaſe would be attended with very bad Conſequences, for the violent Rarefaction which the Fluids muſt have from Bathing in this Fluid, would greatly increaſe their Diſſolution, in Bodies ſo much relaxed; as the Solids of the Body would not be able to give them a proper Reſiſtance, eſpecially as their Velocity would be ſo much increaſed, but the Contents of the larger Veſſels would be forced into thoſe that are ſmaller, and conſequently the Obſtructions would be increaſed, and the Solids of the Body more relaxed.

THE next Diſeaſe which we ſhall take Notice of, which may be relieved by the internal Uſe of this Water, is very near A-kin to the foregoing, its Cauſes are near the ſame, its Effects ſomewhat different, as the Texture of the Bodies in which they happen are different, the former attacks only the Female Sex, and this the Male, and is commonly called hypochondriac Melancholly. And although this Diſeaſe proceeds from a Relaxation of the Fibres of the Body, and an Indigeſtion, and Vicidity of the Fluids, the ſame as the former, yet its Symptoms are very different, as the Fibres of the Body of a Female are much weaker than are thoſe of a Male, and conſequently more eaſily convulſed by Irritation.

It was the Opinion of the antient Phyſicians that this Diſeaſe aroſe from a Faultineſs in the Spleen; but upon a more cloſe Examination into its Cauſes we plainly diſcover, that the Spleen is no otherwiſe concerned in producing this Diſeaſe, than as it ſuffers in the general Calamity of the Body; for the Stomach, Inteſtines, Liver, Meſentery, and all the other Viſcera, are as much to be eſteemed Cauſes, as the Spleen; becauſe they are ſubject to be equally affected with the foregoing Organ.

It is the Opinion of a great many Phyſicians that there is a great Affinity between this Diſeaſe and the Scurvy, that is, from the general ill Habit of the Conſtitution; and I muſt confeſs, from all the Obſervations I have yet made, ſeveral of the Symptoms of this Diſeaſe ſeem ſo complicated with thoſe of the Scurvy, that it is impoſſible, accurately, to deſcribe the Cauſes of the one, without, more or leſs, taking Notice of thoſe of the other; becauſe very few ſuffer under this Diſeaſe, that are not, in ſome Meaſure, affected with the Scurvy at the ſame Time.

BESIDES, the Flatuſes which affect the *primæ Viæ*, the Dejection of Spirits, the diſturbed Sleep, the fooliſh Fears and vain Imaginations, the great Laſſitude of the Body, and weak Digeſtion, the known Symptoms of this Diſeaſe, there are ſharp Pains, and Stitches in ſeveral Organs of the Body, which move ſuddenly from one Part to another, ſometimes they are in one Part, ſometimes in another, ſometimes in the Crown of the Head, from which, at one ſudden Start, it will deſcend into the Stomach or Limbs; not that there is any Humour in the Body ſo volatile, when the Patient labours under this Diſeaſe, as to take theſe ſudden Flights, but only, to the Patient ſeems to do ſo; for the Nerves being in divers Parts irritated and contracted, in thoſe irritated and contracted Parts the Senſe of

Pain will be felt; but immediately after the Workings of the Fibres have diſperſed the Cauſe of Pain in one Part, the Fibres of another Part will be irritated and contracted, it may be, a good Diſtance from the former; upon which, the Patient perceives the Pain to ceaſe in one Part, and ariſe in another, and the whimſical Patient is apt to think, that the ſame Pain makes a Tranſlation from one Part to another; from whence we may plainly ſee, that the Brain, the Nerves, the Arteries, and Fibres of the Muſcles, are all more or leſs affected with this Diſeaſe.

This offending Matter, which in this Diſeaſe cauſes only ſharp Pains, and ſometimes ſmall ſpaſmodic Motions in the capillary Veſſels of the Body, in the fore-mention'd Diſeaſe cauſes violent Convulſions of the whole Body, great Anxiety, and oftentimes a Loſs of all the Senſes: The Reaſon of this we have proved before.

As ſeveral Phyſicians both ancient and modern have attributed the Cauſe of this Diſeaſe to the Spleen, I ſhall now point out the Indiſpoſition of this Organ, and how far it is capable of producing this Diſeaſe. The Spleen is an Organ, whoſe Office or Cauſe of Action, all the Phyſicians and Philoſophers both antient and modern have in vain attempted to define; however, I will now conſider the Nature of this Organ under a healthful State, and the Changes it ſuffers in this Diſeaſe.

When the Body is in Health, and the Fibres properly braced, the Spleen appears of a livid Colour, and all its Veſſels free from Obſtructions, which, in this Diſeaſe, are ſtuffed with a dark-coloured heavy Matter, that very often ſwells it to a monſtrous Bigneſs. From whence theſe Obſtructions? From whence this large Quantity of dark-colour'd Matter, which we often find this Organ ſtuffed with, on diſſecting thoſe which have fallen a Sacrifice to this Diſeaſe. Theſe muſt certainly ariſe from a Relaxation of the ſplenic Veſſels, (as all the Veſſels of the Body are relaxed in this Diſeaſe) whereby they are rendered incapable of giving a proper Reſiſtance and Degree of Motion to the Fluids which are thrown on them by the Force of the Circulation; whence ariſes Obſtructions, and an Accumulation of acrid Fluids, in the Veſſels of this Organ. This is the Reaſon why a Numbneſs and heavy Pain generally affect the left Side of Perſons ſubject to this Diſeaſe; and why the Spleen is ſo incident to Obſtructions and ſchirroſe Swellings in the laſt Stages of it.

It is very often obſerved that People ſubject to this Diſeaſe, often complain of a very acute Pain and Thumping in the Inſide of the Head; this ariſes from the Stimulus given to the Fibres, that compoſe the fineſt Nerves, by which their Motions are made too briſk on the common Senſorium, and the Mind exquiſietly ſenſible of the Impulſe.

To define this in the cleareſt Manner poſſible, we muſt firſt obſerve, that from the too great Vicidity of the contained Fluids and a Relaxation of the Fibres of the containing Veſſels, ſome Part of the nervous Fibres that immediately derive their Exiſtence from the Brain, are obſtructed; whereby a larger Quantity of this fine Fluid is detached by the Remainder of thoſe capillary Veſſels, which are unobſtructed, and which neceſſarily coming with greater Force, makes this painful Senſation ſo much the more acute: So that the Patient does not only perceive an Imagination of a beating and acute Pain in the Inſide of the Cranium, but an actual, diſorderly Impulſe is lodged in the Brain, from which ariſes this acute Pain and diſagreeable Senſation.

And here we ſhould likewiſe take notice of the Reaſon, why People labouring under this Diſeaſe ſeldom take any ſound Sleep. This Wakefulneſs ariſes from the ſame Cauſes as the former, *i. e.* from the Fibres of the Brain being continually in Motion, which keep the Faculties attentive to theſe Ideas, that ſucceſſively enter by the Senſes, for it is neceſſary, in order to procure ſound Reſt or Sleep, that theſe nervous Fibres abate their Motions; and this Abatement is deſign'd by Nature, in order to recover their Elaſticity and Contractions, and reſtore their natural Vigour, which by long continued Exerciſe is greatly wore out, whereby the Mind may exerciſe its Faculties with more Power; for as the Time of Waking is a State of Violence, or a Time of wearing out of the Fibres of the Body; ſo is the Time of Sleep a Time of recovering thoſe Fibres from the State of Laxity and Weārineſs they are ſubject to from a long continued Scene of Action; for the Impulſes, under this Diſeaſe, are greater than what the Objects demand for their natural Conveyance under a regular State of Health; and when the Impulſe conveying any Image or Idea to the Seat of the common Senſorium is thus violently made, it muſt of Courſe follow that this greater Impulſe will excite a greater Perception; and this greater Perception, naturally overpower the Inclination to ſleep; and this is the Reaſon why People, far gone in the Spleen, are much given to Wakefulneſs.

HAVING explained the Nature and Cauſe of this Diſeaſe, according to its Appearances, and the Laws of the Animal Oeconomy, we are now to ſhew how this Water will prove a Medicine for its Relief, and with what other Ingredients it may be mixed ſo as to render its Virtues herein more effectual.

THIS Water, we have plainly proved, contains ſuch Ingredients as are deobſtruent and detergent, and when joined with the ſimple warm Water, muſt likewiſe prove a very good Solvent; from whence we may conclude that this Fluid dilutes the vicid Humours, forces open the Obſtructions, and cleanſes the capillary Veſſels of the Body; and at the ſame Time gently ſtimulates the Fibres to Action, which muſt certainly make it very beneficial in this Diſeaſe.

THESE Qualities may likewiſe be increaſed by the Addition of other Ingredients; and its Medicinal Qualities, in this Diſeaſe, may be made more powerful by adding to it of the following Ingredients, occaſionally, according to the State of the Diſeaſe. Firſt, When the Patient begins to drink the Water (after his Body has been prepared in the Manner we ſhall deſcribe hereafter) he ſhould add to every Glaſs of Water, of Salt of Amber twelve Grains; if the Man is of a ſtrong Conſtitution, more, and if of a very weak one, leſs; if this Quantity cauſe a Diarrhæa, take a leſs Quantity. This ſhould be continued for ſix Weeks at the leaſt; during which Time the Patient ſhould uſe gentle Exerciſe as his Conſtitution will admit of, and a regular Diet of white Meats and Vegetables, and thin diluting Liquors, carefully avoiding all Kinds of Spirits or ſtrong Wines.

After this Time is elapſed it will be neceſſary for the Patient to omit the foregoing Salt, and uſe the Water alone, with the following Draught at the Hours of Eleven in the Morning and Five in the Afternoon, dining at Two o'Clock, and drinking his Water at Eight in the Morning, Half after Eight, and Nine, and at Six in the Evening.

Take of the Decoction of the Peruvian Bark two Ounces; Extract of Gentian Root half a Drachm; Salt of Steel ten Grains; Tincture of Valerian one Drachm; Syrup of Orange Peels, three Drachms, mix. for a Draught.

If with the Uſe of theſe his Body ſhould be too much bound, it will be neceſſary for him to take the Quantity of a large Nutmeg of Lenitive Electuary every Night, juſt as he goes to Bed; this prevents any Coſtiveneſs, and as the Water, joined with the Salt of Amber, diſſolves the Vicidity of the Fluids of the Body, forces open the Obſtructions, and renders the Veſſels pervious; ſo the Water joined with theſe Draughts will ſtrengthen the Texture of the Maſs of Fluids, and brace up the relaxed Fibres of the Veſſels, to give a proper Reſiſtance, and Degree of Motion to their Contents; which muſt greatly relieve, if not entirely eradicate this Diſeaſe.

Bathing in this Diſeaſe, would be attended with bad Conſequences, equally as in the laſt, becauſe it proceeds from the ſame Cauſes, and would exhibit the ſame Appearances, if the Fibres of the Female were of equal Strength with thoſe of the Male.

If this Diſeaſe is in its laſts Stages, Bathing would endanger an Apoplexy, Epilepſy, Palſy, or Mania.

THERE is another Diſeaſe which may be relieved by the internal Uſe of this Water, which has not been taken Notice of by any of the Authors which have writ on this Subject; it is a Diſeaſe which is for the moſt Part attended with dangerous Conſequences, and often lays the Foundation for incurable Diſorders; I mean Obſtructions of the Pancreas and Meſentery; as neither of theſe Organs can be obſtructed without the other ſharing in the Calamity, and the Medicines that relieve the Obſtructions of the one, will likewiſe relieve the Obſtructions of the other; for which Reaſon I ſhall treat of them both as one Diſeaſe; and the rather as the Symptoms of the one is the ſame as thoſe of the other.

The Cauſes of the Obſtructions of thoſe Organs, are whatſoever cauſes too great a Vicidity in the Blood and Juices, and a Relaxation of the Fibres of the Parts affected. I think it will be highly neceſſary for me to give an Account of the Nature and Uſes of theſe Organs before I proceed on farther to deſcribe the proximate Cauſes of their Obſtructions.

The Pancreas or Sweat-bread, is a Gland of the Conglomerate Sort, ſituated between the Bottom of the Stomach, and the Vertebræ of the Loins. It lies acroſs the Abdomen, reaching from the Liver to the Spleen. Its Subſtance is a little ſoft and ſupple. Every little Gland has a ſmall excretory Veſſel, which uniting all together, form one common Duct about the Bigneſs of a Quill, clear and tranſparent like to a lymphatic Veſſel. This Duct runs all along the Middle of the Pancreas, and opens into the Cavity of the Duodenum, at its lower End, where there is a little Caruncle at its Orifice. Sometimes it joins the Ductus Communis Choledocus, and then both open at one Orifice into the Duodenum. The Pancreas receives Arteries from the Cæliack. Its Veins carry their Blood into the ſplenick Branch of the vena Portæ, and the Intercoſtal furniſhes it with Nerves.

The Uſe of the pancreatic Juice is to dilute the Chyle, and prevent the Bile from preying too much on the Coats of the Inteſtines.

The Meſentery is a triple Membrane, placed in the Middle of the Abdomen, almoſt of a circular Figure, with a narrow Production, to which the End of the Colon and Beginning of the Rectum are tied. It is about four Fingers Breadth, and a Half in Diameter, its Circumference being full of Plaits and Foldings, is about three Ells in Length; the Inteſtines, which are tied about this Circumference, are about eight or nine Ells long, ſo that to every Inch of the Circumference of the Meſentery, there are three Inches of the Inteſtines tied. It is ſtrongly tied to the firſt and third Vertebræ of the Loins.

It is compoſed of three Membranes, the inner Membrane which is thicker than the other two, and upon which the Glands and Fat lie, and the Veins and Arteries run, is its own proper Membrane; and the other two which cover each Side of the proper Membrane come from the Peritonæum.

The Branches of the Arteria Meſenterica ſuperior and inferior, which come from the Aorta, and the Venæ Meſeraicæ, which is a Branch of the Porta, run upon its proper Membrane to the Inteſtines; the Nerves which come from the Intercoſtals, and ſome Sprigs from thoſe of the Vertebræ of the Loins, make a Plexus, from which there goes an infinite Number of ſmall Branches to the Coats of the Inteſtines.

THE Venæ Lacteæ and Lymphatic Veſſels run likewiſe upon the Meſentery, in which there are alſo ſeveral veſicular Glands, the biggeſt of which, in the Middle of the Meſentery, is called Pancreas Aſelii. Theſe Glands receive the Lympha from the Lacteal Veins, which come from the Inteſtines, and other Lacteals ariſe from them, which carry this Fluid to the Recepticle of the Chyle. The Uſe of the Meſentery is to keep the Inteſtines in order, and to ſuſtain the Meſeraic Veins, Arteries, Lacteal and Lymphatic Veſſels.

HAVING pointed out the Nature and Uſe of thoſe Organs, and of the Fluid which is ſecreted by the Pancreas; we will in the next Place endeavour to diſcover how they are obſtructed and the Symptoms which are produced in the Body by their Obſtructions.

And Firſt, THESE Organs may be obſtructed by a Groſſneſs and Indigeſtion of the Fluids of the Body, of the Chyle in particular, and a Relaxation of the Fibres the Conſequence of this; they may likewiſe be obſtructed by any Cauſe which weakens the Spring of their Fibres, and renders them incapable of giving a proper Degree of Motion to their contained Fluids, and a proper Reſiſtance to the Fluids, which by the Force of the Circulation is thrown on them.

THE Pancreas being obſtructed, and its Juice retarded, the Chyle will not be properly diluted, nor the moſt acrid Particles of the Bile abſorbed; whence muſt inſtantly follow, a Cholic, of the bilious Kind, from the acrid Particles of the Bile irritating the Coats of the Inteſtines; from whence the Stomach and Bowels will be filled with a windy Flatus, occaſioning ſour, hot, ſharp, acrid and ſtinking Belches; an Obſtruction of the Meſentery, from the Chyle not being properly diluted, as this Fluid muſt paſs through the ſmall Veſſels of this Organ; and all the Fluids of the Body muſt ſoon be corrupted. The Conſequences of which will be, a Diſtention and Tumefaction of the Meſentery, the Inteſtines muſt be compreſſed and conſtipated, their periſtaltic Motion, or the muſcular Action of their Coats greatly diminiſhed, and the Protruſion and Expulſion of the Excrements hindered and obſtructed: From whence muſt ariſe a great Diſtention of the Stomach and Vicera, Aſtmatic Suffocations, and very often a Sort of drunken, delirious, or maniacal Strength and Wildneſs of Imagination, from the immoderate Afflux of the Blood to the Head; which, join'd to the Cholic, and the foregoing Symptoms, make the Patient's Life miſerable.

This Water (after the Body has been properly prepar'd) join'd with the following Medicines, and a ſtrict Regimen, will be found to give great Relief in this Diſeaſe; and if the Diſeaſe has not been of long ſtanding they will entirely eradicate it.

The Patient ſhould mix with every Glaſs of Water which he drinks of the volatile Salt of Amber five Grains, more or leſs according to his Conſtitution, and every Night when he goes to Bed take the following Bolus.

Take of Lenitive Electuary two Drachms; Æthiops Mineral one Drachm; Syrup of Buckthorn Quantity ſufficient, mix for a Bolus.

The Bath-Water with the Salt of Amber dilutes the Humours, diſſolves their Viciditу, and gives a gentle Stimulus to the Fibres of the containing Veſſels; by which the Obſtructions will be forced open, and the Fibres gently contracted. The Bolus, taken every Night, keeps the Body open, carries off the acrid Particles of the Bile, and the diſſolved Fluids, by which theſe violent Symptoms of the *primæ Viæ* muſt ſoon vaniſh.

BATHING muſt be very prejudicial in this Diſeaſe; as the great Rarefaction, and increaſed Degree of Velocity, the Fluids muſt have from Bathing, would not only endanger an Inflammation of the Organs obſtructed, but likewiſe violent Head-Achs or an Apoplexy, as the Afflux of the Blood to the Head is greatly increaſed by the Diſeaſe.

THE next Diſeaſe I ſhall deſcribe which may be greatly relieved by the internal Uſe of this Water, more eſpecially if join'd with the Shop Medicines I ſhall point out and a proper Regimen, is the Scurvy; a Diſeaſe very well known to moſt People on this Part of the Globe, is for the moſt Part attended with dangerous Symptoms, and very often ends in Death. The proximate Cauſe of this Diſeaſe is an Indigeſtion, Vicidity, Diſſolution, and Acrimony, of the Maſs of Fluids, and a Relaxation of the Solids. This State of the Fluids and Solids, ariſes from various Cauſes, too many to be inſerted here, however, we will inſert ſome of the principle; which are, firſt, from the Patient's feeding on very groſs, vicid, or acrid Meats, drinking too great a Quantity of putrid, or ſtrong Malt Liquors, breathing an Air that is replete with humid or ſaline Particles, which is generally the Caſe of thoſe that live near the Sea or marſhy Grounds, uſing very little Exerciſe, at leaſt not ſo much as is requiſite to grind and diſſolve the groſs vicid Aliments they make Uſe of. It for the moſt Part attacks the Luxurious, and Valetudinarians, and ſuch as uſe the Sea, go long Voyages and feed on ſalt and dried Meat, Biſcuit, and putrefied Waters with Worms.

THIS Diſeaſe generally begins with an unuſual Lazineſs, and Stiffneſs of the Joints, Inclination to ſit and lie down, a ſpontaneous Wearineſs all over the Body, a Pain of the Muſcles, as after too great a Fatigue, chiefly in the Legs and Loins, a great Difficulty in Walking up or down Stairs;

and in the Morning upon firſt waking, there is a great Pain in all the Limbs and muſcular Parts of the Body, with a Senſe of Wearineſs and a Smarting. This Averſion to Motion degenerates ſoon into a univerſal Laſſitude, with a Stiffneſs and Feebleneſs of their Knees, upon uſing Exerciſe; with which they are very apt to be much fatigued, and upon that Occaſion ſubject to a Breathleſſneſs or Panting: A Swelling of the Legs towards Night, which diſappears in the Morning, with red, tawny, yellow, or purple Spots there; a pale or yellowiſh Colour in the Face, and if we carefully examine the Lips or the Eyes where the Blood Veſſels lie moſt expoſed, they appear greeniſh; and now there is a beginning Stench in the Mouth; a Swelling, Pain, Heat, Itching, and Bleeding of the Gums upon the leaſt Preſſure: The Teeth bare from the Receſs and Looſneſs of the Gums; various wandering Pains all over the Internal as well as External Parts of the Body, cauſing very great Torments, and ſometimes ſeveral altho' ſlight Sorts of Hæmorrhages.

THERE is a Rottenneſs and Stinking of the Gums, an Inflammation and Bleeding of the ſame, and ſometimes a Gangrene; the Teeth growing looſe, black, and rotten; Hæmorrhages, frequently mortal, from ſeveral Parts of the Body, without any apparent Wound, as alſo from the Lungs, Noſtrils, and other Internal Parts of the Body; Ulcers of the worſt Kind very often break out on all Parts of the Body, chiefly in the Legs, of a gangrenous Diſpoſition and moſt fœtid Smell; a dry gentle Leproſy; violent nocturnal Pains all over the Limbs, Joints, Bones, and internal Parts. And this Putrefaction of the Fluids occaſioned by this Diſeaſe, very often gives Riſe to Fevers of all Sorts, eſpecially thoſe which are called malignant; Vomitings, Diarrhæa, Dyſenteries, ſevere Stranguries, and Oppreſſion upon the Præcordia; Dropſies, Conſumptions, Convulſions, Tremors, Palſies, Putrefaction of all the Internal Parts; and ſometimes it is ſuddenly mortal.

Having pointed out the Symptoms which generally happen in all the Stages of this dreadful Diſeaſe; we will now endeavour to account for the Cauſes of thoſe Symptoms, and how the Fluids of the human Body, which in an healthy State is very mild and balſamic, is capable of undergoing ſuch Changes, and giving Riſe to theſe dreadful Symptoms.

Every animal Body is compoſed of ſolid and fluid Parts; and thoſe Parts, eſpecially the Fluids, are compoſed of ſuch a Variety of Subſtances, as render them of all Things the moſt liable to Corruption and Putrefaction; except kept in a proper Degree of Motion and Fluidity.

In the firſt Stages of this Diſeaſe, when this heterogeneous Maſs has not a proper Degree of Motion from the circulating Veſſels, which now begin to be relaxed, to keep it in a due Degree of Fluidity, it firſt becomes vicid, and gives Riſe to thoſe heavy dull Pains, and Wearineſs, which are the firſt Symptoms of this Diſeaſe. Then, from the various Kinds of Salts and Oils with which it is compoſed, it falls into inteſtine Motions, and degenerates from its mild and balſamic State, into various Degrees of Acrimony and Corruption, and gives Riſe to thoſe wandering Pains, Spots, Eruptions, Heat and Bleeding of the Gums, and ſlight Hœmorrhages, which are the Symptoms of the ſecond Stage of this Diſeaſe.

In this Caſe, when the miſerable Patient, inſtead of getting Relief, continually crams his putrid Body with high-ſeaſon'd Foods, and hot acrid Liquors, he gradually brings the whole Maſs of Fluids into a State of Putrefaction and Corruption; which diſſolves the Craſſamentum of the Blood, and renders it a dirty Puddle of acrid Matter, and gives Riſe to thoſe nocturnal Pains, Ulcers, Hæmorrhages, Gangrenes, &c. which are the Sýmptoms of the third Stage of this Diſeaſe.

In the Cure of this Diſeaſe, three Things muſt be conſidered; firſt, to deſtroy this alkaline Acrimony which diſſolves the Texture of the Fluids, and carry it out of the Body. Secondly, to recover and maintain an equal or due Proportion of the Craſſamentum and Serum in the Blood. Thirdly, to ſtrengthen and keep up the elaſtic Tone, or muſcular Force of the Fibres. Bath-Water uſed internally, and join'd with the following Medicines, and a ſtrict Regimen, anſwers all thoſe Intentions, after the Body has been properly prepared. Firſt, when the Patient begins to drink this Water, he ſhould add to every Glaſs of it he drinks, of Elixir of Vitriol fifteen or twenty Drops.

And every Night when he goes to Bed he ſhould take the following Draught;

Take of ſimple Mint Water two Ounces; Volatile Salt of Vipers Half a Drachm; Syrup of Violets three Drachms, mix. for a Draught.

Every ſix or ſeventh Day he ſhould take ſome gentle Cathartic; for which I would recommend ſuch as the following.

Take of Manna ſix Drachms; Water-Gruel two Ounces; mix. and add Powder of Rhubarb one Scruple; Salt Diuretic fifteen Grains; mix. for a Draught; to be taken early in the Morning.

By the Uſe of theſe the firſt Intention for relieving this Diſeaſe is anſwer'd; Bath-Water dilutes and diſſolves the Vicidity of the Maſs of the Fluids, and by its Acidity abſorbs and deſtroys their alkaline Acrimony. The Volatile Salt of Vipers, cleanſes the capillary Veſſels, attenuates their Contents, and prevents them from running into thoſe Grumes and unnatural Coheſions by which thoſe Veſſels are obſtructed; whereby it divides and diſlodges Humours in the moſt remote Receſſes, and carries them off thro' the Pores of the Skin. The Cathartic cleanſes the Primæ viæ and urinary Paſſages, and carries off all thoſe corrupt Humours, as they are diſſolved and abſorbed by the Water and other Medicines.

After he has continued in this Courſe for ſix or ſeven Weeks, or 'till the Symptoms are abated, and this corrupt Matter diſcharged off the Body; it will be neceſſary for us to omit the fore-going Shop Medicines and uſe ſuch as the following with this Fluid. With every Glaſs of Water he drinks ſhould be mixed of the following Mixture two Drachms.

Take of the Tincture of Peruvian Bark two Ounces; Elixir of Vitriol three Drachms; mix. for a Mixture.

This anſwers both the ſecond and third Intention; it recovers and maintains an equal and due Proportion of the Craſſamentum and Serum in the Blood; and ſtrengthens and keeps up the elaſtic Tone, or muſcular Force of the Fibres. Thoſe who would entirely erradicate this Diſeaſe ſhould join to the foregoing Medicines, a ſtrict Regimen of white Meats, Milk, and Vegetables; and uſe gentle Exerciſe, as their Conſtitution will bear.

Bathing in this Water will be very pernicious here, eſpecially in the ſecond and third Stages of the Diſeaſe, or, in ſhort, in any Diſeaſe where there is a Diſſolution and Acrimony of the Fluids, and a Relaxation of the Fibres, as we have plainly proved before.

In the firſt Stage of this Diſeaſe, where the Fluids are only in a vicid State, and the Solids but a little relaxed, Bathing will not be attended with ſuch dangerous Conſequences as in the ſecond and third Stages; but even then I would not adviſe its Uſe, as the Method I have laid down is ſufficient for the Relief of the Diſeaſe in any of its Stages, without running any Hazard from ſuch uncertain Methods.

There is another Diſeaſe which may be relieved by the internal Uſe of this Water, which I think has not been taken notice of by any Perſon who has writ on this Subject; which is the Cachexia, or ill Habit of Body, which very often follows intermitting Fevers or Agues, particularly the Tertian and Quartan; is a Diſeaſe very well known to moſt People, and very often attended with dangerous Symptoms; and for the moſt Part lays the Foundation for incurable Diſeaſes, except there is immediate Relief adminiſtered.

The proximate Cauſe of this Diſeaſe is a Relaxation of the Fibres of the Body, and a too great Vicidity or Lentor of the Fluids in the capillary Veſſels; very often there are great Obſtructions in one or more of the chief Organs of the Body.

This State of the Conſtitution, owes its Riſe to the preceding Ague, which greatly relaxes the Fibres of the Body, and deſtroys their Springineſs or Elaſticity; from whence a Vicidity or Lentor of the Fluids muſt follow, from their not having a proper Degree of Motion, and if the Ague has been injudiciouſly ſtopped, or the Peruvian Bark adminiſtred freely, without previous Evacuations, or attenuating Medicines, we may reſt aſſured that there is great Obſtructions formed in the Body; for this Drug, by its abſorbent and vicid Qualities, increaſes the Craſſamentum,

mentum, and ſtrengthens the Texture, of the Maſs of Fluids; and by its gentle Stimulus braces up, and increaſes the Springineſs of, the relaxed Fibres of the Body: So that except the Vicidity and Coheſions of the Fluids (which join'd to a Relaxation of the Solids is the Cauſe of intermitting Fevers or Agues) is firſt broke and diſſolved, before we give this Drug, we not only increaſe their Coheſions and Vicidity, but by braceing up the relaxed Veſſels we decreaſe the Diameter of their Tubes, and conſequently render the vicid Fluids incapable of Circulating in the capillary Veſſels; which muſt give Riſe to Obſtructions of thoſe Veſſels, and a numerous Train of Ills.

THIS Water will be found very beneficial in this Ail, more eſpecially if we join to it the following Shop Medicines, which greatly increaſes its Efficacy, and renders it much more powerful for relieving this and many other Diſeaſes.

Firſt, WHEN the Patient begins to drink this Water, after the Body has been properly prepared, he ſhould mix with every Glaſs of it, of Salt of Steel, four or five Grains, and every Night when he goes to Bed ſhould take the following Draught.

TAKE of Simple Mint Water two Ounces; Salt Diuretic Half a Drachm; Syrup of the five opening Roots three Drachms; mix for a Draught.

HE ſhould continue on the Uſe of theſe for at leaſt ſix Weeks or more, as the Vicidity and Lentor of the Fluids in the capillary Veſſels will take at leaſt that Time to be properly broke and diſſolved, afterward he ſhould omit the foregoing, and drink the Water without any Ingredient mixed with it; only it will be neceſſary for him to take the following Draught at Eleven o'Clock in the Morning, and at Five in the Afternoon.

TAKE of Decoction of the Peruvian Bark two Ounces; Elixir of Vitriol thirty Drops; Salt of Steel ſix Grains; Extract of Gentian Root Half a Drachm; Syrup of Orange Peels three Drachms; mix for a Draught.

THE Bath-Water and Saline Subſtances, dilutes, and diſſolves, the Vicidity and Coheſions of the Fluids in the capillary Veſſels, forces open the Obſtructions, and renders the Veſſels pervious; and the Draughts ſtrengthen their Texture, and gives a proper Degree of Springineſs or Elaſticity to the Veſſels.

HAVING fully deſcribed the various Diſeaſes which may be relieved by the internal Uſe of the King's-Bath-Water, and when join'd with ſome few Shop Medicines may be entirely cured; we muſt now proceed to the ſecond Thing propoſed; *i. e.* to point out the Diſeaſes human Nature is ſubject to, in which it will be neceſſary to add Bathing to the internal Uſe of this Water.

We will begin our Enquiry with the Palſy; a Diſeaſe very well known to moſt People who inhabit this Part of the Globe; a Diſeaſe for the moſt Part attended with dangerous Symptoms, and very often ends in Death.

This Diſeaſe has for its proximate Cauſe, whatſoever, by Obſtruction or Preſſure, hinders the free Influx and Reflux of the nervous Fluid from the Brain, or of the arterial, into, and from, the Muſcles of the Part or Parts affected; which may be cauſed by the Apoplexy, the Epilepſy, Convulſions, the Suppreſſion of any of the uſual Evacuations, Tranſlations of any morbific Matter in acute or chronical Diſeaſes, or whatever cauſes an Obſtruction or Preſſure of the Veſſels leading to or from the Part or Parts affected.

There are ſeveral Species of this Diſeaſe, the firſt we ſhall deſcribe, as being that which is moſt dangerous, is the Paraplegia; a Diſeaſe, wherein all the Parts of the Body except the Head are affected; is for the moſt Part preceded by the Apoplexy, and without Care is taken, in the Adminiſtring of Medicines for its Relief, it terminates in its priſtine Malady.

There is another Species of this Diſeaſe, called the Hemiplegia; is for the moſt Part very dangerous, and often mortal. This Species is likewiſe for the moſt Part preceded by the Apoplexy, but Medicines may be adminiſtred with leſs Danger in this Species than in the laſt.

There is a third Species of this Diſeaſe which is commonly called a Partial Palſy, as it affects only the extreme Parts and is the Effect of Colds, *&c.*; this is not ſo dangerous as the former, and is for the moſt

Part curable with the Uſe of proper Medicines.

There is a fourth Species of this Diſeaſe which is cauſed by the Tranſlation of the morbific Matter, on the extreme Parts, from that tormenting Diſeaſe called Cholica Pictonum or dry Belly-Ach; this is more dangerous than the laſt, but yet may be relieved with proper Management.

The firſt Species of this Diſeaſe we muſt treat of, when we come to treat of the Diſeaſes which may be relieved by the Uſe of the Croſs-Bath-Water, as that Fluid may be uſed with more Safety in the Paraplegia, than this we are treating of.

The ſecond Species of this Diſeaſe or Hemiplegia, and likewiſe the third Species or partial Palſy, may be ſeen fully treated of in my Eſſay on the Diſeaſes of the Head and Neck, to which the Reader is referr'd.

The fourth Species of this Diſeaſe, or the Palſy which is cauſed by the dry Belly-ach, remains now to be treated of here. This Species of the Palſy, cauſed by a Tranſlation of morbific Humours on the Parts affected, muſt be relieved, Firſt, by properly diluting thoſe Humours; to anſwer which Intention, it will be neceſſary to uſe a ſtrict Regimen, and the internal Uſe of the Water for at leaſt ſix Weeks. Secondly, by ſetting them in a violent Motion, and aſſiſting Nature to throw them off the Body, to anſwer which, I know no better Method than the following. After the Humours has been properly diluted by a ſtrict Regimen, and the internal Uſe of this Water, the Patient ſhould begin Bathing; his Stay in the Bath ſhould be very ſhort at firſt, not exceeding ten Minutes; and if he is of a weak Conſtitution, he ſhould begin with Bathing in the Croſs-Bath, in the Manner I have propoſed for the Hemiplegia: This Diſeaſe requires Bathing at leaſt four Times in a Week. By the Uſe of theſe the

Humours will be brought to a due Degree of Fluidity; and to diſcharge them off the Body as they are ſet in Motion, by Immerſion in this Fluid, it will be neceſſary for the Patient to uſe the following Medicines, every Day he does not bathe.

TAKE of the beſt Manna ſix Drams; Water Gruel two Ounces; mix. and add Powder of Rhubarb and Salt Diuretic of each one Scruple; mix. for a purging Draught; to be taken in the Morning early.

TAKE of ſimple Alexiterial Water two Ounces; Volatile Salt of Amber one Scruple; Powder of Ruſſia Caſtor fifteen Grains; Syrup of Balſam three Drachms; mix, for a Draught. To be taken at Night going to Bed, after the Purge.

THESE diſcharge the Humours off the Body by Stool, Urine, and Perſpiration; and and if the Diſeaſe has not been of long

Standing, there are very few Caſes which will reſiſt the Uſe of this Method of Cure.

THE next Diſeaſe we ſhall take Notice of, which may be much relieved by the internal and external Uſe of this Water, is the Gout; a Diſeaſe very well known to moſt of the Inhabitants of this Kingdom, eſpecially the moſt wealthy, and thoſe who lead a debauch'd Courſe of Life; ſo that it may be properly called the Child of Luxury and Intemperance. The Cauſe of this tormenting Diſeaſe, may be ſeen plainly deſcribed in my Diſſertation on the Gout, to which the Reader is referr'd. I have likewiſe in that Diſſertation plainly proved, that if the Fits of the Gout are not critical, they lay the Foundation for a numberleſs Scene of Miſeries. They fail of being ſo when the Elaſticity of the Fibres is naturally very weak, or render'd ſo, by a voluptuous Courſe of Life, Intemperance, or, in ſhort, a Neglect of the proper Uſe of any of the Non-naturals, ſo that they have not a ſufficient

Degree of Contraction, to break and diſſolve the gouty Matter, with the Help of a Fever, fine enough to be diſcharged off thro' the capillary Veſſels of the Body, or, when this Matter is ſo accumulated on the capillary Veſſels, that the Fever, raiſed by its Irritation, is not ſufficient to ſeparate it from the Blood, and Juices, in order to procure it a critical Diſcharge: This laſt is generally the Cauſe of Perſons when they grow old, or thoſe of a cold phlegmatic Conſtitution.

While the gouty Matter is in perfect Fuſion with the other Fluids, and is, by the Force of the Circulation, driven about in the Body, it occaſions Head-Achs, Vertigos, wandering Pains and Spaſms in the Limbs, Pain in the Stomach, Loſs of Appetite, flatulent and ſour Belchings, and very often a Train of the Diſeaſes commonly called nervous. When this Humour is ſeparated from the other Humours of the Body, and thrown off on the Joints in the remote Parts of the Body; and when, from a Weakneſs of the Conſtitution, the Fibres have not a proper Degree of Contraction to break and diſſolve this Matter fine enough to paſs off thro' the Pores of the Skin, or to be re-abſorbed by the re-fluent Blood and diſcharged off by the Kidneys, it is accumulated upon the Joints in a greater Quantity than can be critically diſcharged from them; there, for Want of a proper Degree of Motion, it firſt grows vicid, and then falls into inteſtine Motions, and grows acrid; curdles that fine Lymphatic Juice deſigned by Nature for lubricating the Joints, and hardens it into a hard Alkaline Subſtance, commonly called Chalk-ſtones, which, by repeated Fits, increaſes, and deſtroys the Action of the Joint.

SOMETIMES this Matter will likewiſe be thrown off on the Tendons, and muſcular Parts, where it grows vicid, and very ſoon renders the Part or Parts unfit for muſcular Motion; and the Perſons which are thus affected looſe the Uſe of their Limbs, and are made Cripples. Theſe are the Caſes in which the internal and external Uſe of this Water will be found very beneficial, and of which I ſhall now treat of.

Firſt, WE will begin with thoſe wherein the gouty Matter is in perfect Fuſion with the other Fluids, and is, by the Force of the Circulation, driven about in the Body, occaſioning a numerous Train of Ills. In this Caſe, after the primæ Viæ has been cleanſed by two or three Doſes of Rhubarb, the Patient ſhould begin with drinking the Waters, and he will ſoon find (if he has any Strength in his Fibres) that this Matter will be thrown off on the extreme Parts in the Form of a Fit; as this Water dilutes and diſſolves the vicid and ſaline Particles of the Fluids and renders them duly fluxile, and by the gentle Stimulus, its volatile and ſaline Ingredients, give to the Fibres, their Contractions and Elaſticity are increaſed, whereby they are rendered capable of throwing off this Matter upon the extreame Parts. This done, we muſt omit the Uſe of this Water, leſt it increaſe the Inflammation and Pain too much, and purſue the Method laid down in my Diſſertation on the Gout for the Relief of the Fit.

Secondly, We will conſider thoſe in whom the gouty Matter is ſeparated from the Maſs of Fluids, and thrown off on the Joints of the extreme Parts. It will be abſolutely neceſſary for thoſe to uſe this Fluid both internally and externally, and likewiſe to join with its Uſe ſuch as the following Shop Medicines; as there are three Intentions to be anſwered here:

Firſt, To dilute and diſſolve the vicid and ſaline Particles of the Fluids, which obſtruct theſe capillary Veſſels.

Secondly, To give them ſuch a Degree of Motion, as, that they may perſpire out through the Pores of the Skin, or be re-abſorbed by the refluent Blood.

Thirdly, To aſſiſt Nature to diſcharge this Matter out of the Body, as it is ſet in Motion, by whatſoever anſwers the ſecond Intention.

The firſt of theſe is anſwered by drinking this Water for ſome Time, in a pretty large Quantity; about three Pints every Day; and a ſtrict Regimen.

The Second is anſwered by Bathing in this Fluid, uſing that Operation commonly called Dry-pumping often, and at the ſame Time breathing an Air that is replete with the volatile Particles of it: The Manner of Bathing in theſe Caſes may be ſeen in the third Part of this Treatiſe.

The third Intention is anſwered by the following Cathartic and diuretic Medicines, uſed the Day following each Time of Bathing.

Take of Infuſion of Senna one Ounce and half; Tincture of Rhubarb one Ounce; Tincture of Hiera Picra two Drachms; mix for a purging Draught. To be taken in the Morning early.

Take of ſimple Mint Water two Ounces; volatile Salt of Amber one Scruple; Powder of Ruſſia Caſtor eighteen Grains; Syrup of Violets three Drachms; mix for a Draught. To be taken at Night going to Bed, after the Purge.

Thirdly, We will deſcribe the Method of relieving thoſe in whom the gouty Humour is thrown off on the Tendons and muſcular Parts, and renders the Part or Parts affected unfit for muſcular Motion. In theſe, the ſame Method anſwers as in the former, only the Operation call'd Dry-pumping ſhould be performed longer, and much more frequent in theſe, than in the laſt, as the gouty Matter in theſe lies deeper among the Muſcles, and requires a greater Force to ſet it in Motion.

When the Fits of the Gout are regular and critical, this Water will be found of very little Uſe therein, but may be attended with dangerous Conſequences if uſed injudiciouſly, as a great many have experienced to their Sorrow.

The next Diſeaſe we ſhall take Notice of, which may be relieved by the internal and external Uſe of this Water, more eſpecially when join'd to the Shop Medicines we ſhall point out, is the Leucophlegmatica or Anaſarca; a Diſeaſe very well known to moſt People who inhabit theſe Kingdoms which lye under the temperate Zone; it is for the moſt Part attended with dangerous Symptoms, and often fatal except it is relieved in its Infancy. This Diſeaſe is known to be preſent, when the ſerous Part of the Fluids is ſhed out of its Veſſels, and received into Cavities, or when, for Want of a due Degree of Circulation it ſtagnates ſomewhere, and diſtends its Veſſels too much; which may conſequently take Place wherever there are ſuch ſerous Veſſels, that is in the whole Habit of Body, or in any particular Part thereof. The Seat of this Diſeaſe is for the moſt Part in that Membrane commonly call'd Adipoſe, or Cellular Membrane; and may be known by a ſoft, white, looſe Tumour of the whole Body, really œdematous, in the Feet and Legs eſpecially, and in the Hands and Arms; which is increas'd in the Evening, and greatly decreaſed by next Morning. By Degrees the Diſeaſe increaſes, and the Urine becomes ſmall in Quantity, with a Difficulty of Breathing and a great Thirſt.

THIS Diſeaſe is cauſed by a Relaxation of the Fibres of the Body, and too great a Coldneſs and Vicidity of the circulating Fluids; which may be produced by whatever greatly weakens their Springineſs and Elaſticity; and conſequently the Velocity and Attrition of the Fluids will be decreaſed, their innate Heat diminiſhed, and their Vicidity, eſpecially on the capillary Veſſels, increaſed, ſo that the Force of the Circulation is render'd incapable of promoting the glandular Secretions, and to protrude the Fluids thro' the Canals, formed to receive them.

TO cure this Diſeaſe, there are three Intentions to be anſwerd; Firſt to dilute, and give a proper Degree of Motion to, the vicid Fluids; Secondly, to diſcharge the ſuperfluous Quantity of this cold phlegmatic Humour off the Body, by the proper Outlets; and Thirdly, to ſtrengthen the Texture of the whole Maſs, and brace up the relaxed Veſſels.

The firſt of theſe is anſwer'd by uſing this Water internally and externally: And if, to its internal Uſe, we add of Salt of Steel, four or five Grains to every Glaſs of it that is drank, we ſhall find it much more beneficial; as, by the Addition of this Ingredient, its ſtimulating Quality will be much more increaſed; and conſequently the Attrition and innate Heat of the Fluids will be ſo likewiſe, whence the Motion of the Heart will be increaſed, and the Fluids protruded through the Canals with greater Force; which joined to the Rarefaction, and increaſed Quantity of Motion the Fluids, and the Stimulus the Solids, receive from Bathing; will entirely diſſolve the vicid Fluids in the capillary Veſſels, ſo that they may be either diſcharged off through the Pores of the Skin, or re-abſorbed by the refluent Blood, and diſcharged off through the urinary Paſſages, or by Stool.

Secondly, We are to aſſiſt the Force of the Circulation to throw off this ſuperfluous

Load, by ſtimulating the Inteſtines and urinary Paſſages; being the Outlets by which they are to paſs off; except forced off by Perſpiration, for which I would recommend ſuch as the following.

Take of Infuſion of Senna one Ounce and a Half; Tincture of Hiera Picra one Ounce; Salt Diuretic one Scruple; Syrup of Buckthorn Half an Ounce; mix. for a Draught. To be taken early in the Morning, on the Day following each Time of Bathing.

Take of Simple Mint and Pepper-Mint Waters of each one Ounce; Salt Diuretic half a Dram; Volatile Tincture of Valerian one Drachm; Syrup of the five opening Roots three Drachms; mix. for a Draught. To be taken going to Bed, the Evening after the Purge.

Thirdly, After the ſuperfluous Lympha is evacuated, and the Veſſels render'd pervious,

vious, Bathing ſhould be omitted, and in its Place ſubſtitute the following Medicines; to ſtrengthen the Texture of the Fluids, and brace up the relaxed Fibres; by which the circulating Juices may receive ſuch a Degree of Motion as is requiſite to promote the glandular Secretions, and keep the capillary Veſſels duly pervious.

TAKE of Decoction of Peruvian Bark two Ounces; Elixir of Vitriol forty Drops; Extract of Gentian Root half a Dram; Salt Diuretic one Scruple; Syrup of Orange Peels three Drachms; mix. for a Draught. To be taken every Day at Eleven o'Clock in the Morning, and at Five in the Afternoon.

THIS increaſes the Craſſamentum of the Blood and ſtrengthens its Texture; and by its gentle Stimulus, it increaſes the Contractions and Vibrations of the Fibres, and conſequently braces them up, by which the Circulation will have a proper Degree of Velocity, and the capillary Veſſels kept duly pervious.

THE next Diſeaſe we ſhall take Notice of, which may be relieved by the Uſe of this Water, is the Leproſy; a Diſeaſe which is well known in all Places of the habitable World that we have yet heard of; it is hereditary, being conveyed from Parents to their Children for ſeveral Generations; its ill Effects I have no Occaſion to deſcribe being well known, and dreaded by all People.

THE Cauſe of this Diſeaſe, is a very great Corruption and Vicidity of the Fluids of the Body, eſpecially thoſe which circulate in its moſt remote Parts or capillary Veſſels; which is occaſioned by whatever decreaſes the Velocity, and increaſes the inteſtine Motion of the Juices of the Body; as a Relaxation of the capillary Veſſels by obſtructed Perſpiration, unwholſome Food, hard Drinking, eſpecially of ſtrong Malt Liquors, and uſing little Exerciſe, a ſtubborn Itch, which has long afflicted the Body. By theſe the Juices is render'd vicid and greatly corrupted; eſpecially when they paſs thro' the ſmall Veſſels near the Surface of the Body, where, beſides the Inteſtine Motions they fall into of themſelves, for Want of a proper Degree of Motion from the Solids, they meet with the corrupted Contents of theſe Veſſels, corrupted by the Itch, ſtubborn Small-Pox, or other cutaneous Diſorders, and are by theſe converted, from a balmy Lymphatic Juice, into a Maſs of acrid and corrupted Matter.

This Diſorder is uſually attended with a great Itching. The Scabs are for the moſt Part dry, except in groſs Conſtitutions where they generally appear humid. It very often appears in the Form of a ſcabbed or Scald-head, and is ſometimes attended with Ulcers. The Skin appears ſometimes tending to a livid or black Colour; ſometimes yellowiſh, and a red inclining to black. When the Part affected is expoſed to the Air, it is preſently wrinkled, exaſperated and grows cold, the whole Body appears unctuous, ſo that Water ſprinkled upon it will ſcarce ſtick to it; it gradually grows thick, and is render'd wrinkled and rough; it looks as if ſprinkled with Bran, ſometimes purple, ſometimes whitiſh, as if it had a Cruſt of Lime, eſpecially in the Face, and is deformed with a great many Bunches, and ſoft Tubercles without Pain, particularly behind the Ears, about the Forehead, the Chin, and Limbs, which are affected with a Morphew or Scurf, Impetigos, and a ſtiff dry Scab.

In the Cure of this Diſeaſe we have four Intentions to anſwer. Firſt, to diſſolve the Vicidity, and abſorb the Acrimony of the Maſs of Fluids. Secondly, to render them duly fluxile. Thirdly, to aſſiſt Nature to throw off the corrupt Matter thro' the common Outlets of the Body. And Fourthly, to ſtrengthen the Texture of the whole Maſs, and brace up the relaxed Veſſels.

Firſt, THEN, we are to diſſolve the Vicidity and abſorb the Acrimony of the Maſs of Fluids. To anſwer which Intention, I know no better Method than drinking freely of this Water, and uſing the following Draught during the Time you drink it. If the Scurfs are very dry, drink the larger Quantity; which ſhould be at leaſt three Pints a Day: In the other Kind one Quart will be ſufficient. His Diet ſhould be very thin and light, carefully avoiding all Kinds of high-ſeaſon'd Sauces, Wines, Spirits, &c.

TAKE of ſimple Mint Water two Ounces; volatile Salt of Vipers two Scruples; Syrup of Violets three Drachms; mix for a Draught. To be taken every Night going to Bed, during the Time of drinking this Water.

By the Uſe of theſe, the Vicidity of the Fluids will be diſſolved and their Acrimony corrected: Their Uſe ſhould be perſiſted in for five or ſix Weeks at the leaſt; afterwards proceed to anſwer the ſecond Intention, *i. e.* to render this Maſs duly fluxile. And of all the Medicines hitherto diſcovered, nothing anſwers this Intention ſo well as Bathing in this Water; for by the increaſed Quantity of Motion, and great Rarefaction, it gives to the Fluids of the Body, it ſets all their Particles in Motion, forces open the Obſtructions, renders all the Veſſels pervious, and the Fluids duly fluxile. Bathing ſhould be uſed every ſecond Day, beginning with a ſhort Continuance in the Water, which increaſe gradually according to the Strength of the Patient, as we ſhall point out in the third Part of this Treatiſe. On the Days he does not bathe, we ſhould adminiſter Medicines to anſwer the third Intention; *i. e.* to aſſiſt Nature to throw off the corrupt Matter thro' the common Outlets of the Body, as it is diſſolved and ſet in Motion by the preceding Bathing; for which ſuch as the following will be found to anſwer our Ends.

TAKE of Manna ſix Drams; Water-Gruel two Ounces; mix, and add Salt Diuretic and Powder of Rhubarb of each half a Dram; mix, for a purging Draught. To be taken early in the Morning.

TAKE of the beſt Gum Guajacum in Powder one Scruple; Salt Volatile of Amber and Native Cinnabar of each fifteen Grains; Conſerve of red Roſes Quantity ſufficient; mix, for a Bolus. To be taken every Night after the Purge, drinking after it four Ounces of warm Balm Tea.

PERSIST in the Uſe of theſe 'till the Symptoms diſappear; afterward omit theſe and proceed to adminiſter ſuch Medicines as will brace up the relaxed Veſſels, and ſtrengthen the Texture of the Fluids; to anſwer which, I know none better than the following.

TAKE of Decoction of the Peruvian Bark two Ounces; Extract of the ſame half a Drachm; Salt Diuretic half a Drachm; Syrup of Orange Peels three Drachms; mix, for a Draught. To be taken every Day at Eleven o'Clock in the Morning and at Five in the Afternoon.

THE next Diſeaſe we ſhall point out, which may be much relieved by the internal and external Uſe of this Fluid, is the Scrophula, or King's Evil; a Diſeaſe very well known in all the northern Parts of Europe; is attended for the moſt Part with dangerous Symptoms, and ſometimes mortal.

THIS Diſeaſe proceeds at firſt from a too languid Vibration of the Solids, whereupon the Fluids go into too cloſe Contacts, and form Tumours hard and unequal, ſeldom painful, in different Parts, and are for the moſt Part of the ſame Colour with the reſt of the Body. The Glands are frequently the

Seat of this Diſeaſe, but eſpecially and primarily the Glands of the Meſentery, which never eſcape; it generally ſhews itſelf in the Neck, remote Parts, and where the Circulation is moſt languid.

THERE are three Intentions to be anſwer'd in the Cure of this Diſeaſe; (I mean before any Matter is formed or the Parts ulcerated, for when either of theſe happen, the Cure depends upon Surgery).

Firſt, To dilute and diſſolve the Vicidity and Coheſions of the Fluids and render them duly fluxile.

Secondly, To aſſiſt Nature to throw off the ſuperfluous Juices thro' the common Outlets of the Body.

And Thirdly, To increaſe the Elaſticity and Vibrations of the Fibres, and ſtrengthen the Texture of the Fluids.

To anſwer the firſt Intention, the Uſe of this Water, joined with a Milk and Vegetable Diet, and the following Shop Medicines, will be found very beneficial when all other Medicines have failed.

After his Body has been properly prepared he ſhould begin to drink this Water, and in every Glaſs of it he drinks, ſhould be mixed Volatile Salt of Amber ſeven Grains; this ſhould be continued for three Weeks before he begins to bathe. When he begins Bathing, he ſhould make but very ſhort Tarriance in the Water, which increaſe gradually; and if he is of a very weak Conſtitution he ſhould begin with Bathing in the Croſs-Bath; ſtill continuing the internal Uſe of the Water with the Salt of Amber. By the Uſe of theſe the Fluids will be diluted and render'd duly fluxile.

Afterwards we muſt proceed to adminiſter Medicines to anſwer the ſecond Intention,

tention, for which ſuch as the following will be found very efficacious.

Take of Infuſion of Senna one Ounce and a Half; Tincture of Hiera Picra one Ounce; Syrup of Buckthorn two Drachms; mix, for a purging Draught. To be taken every third or fourth Morning during the Time of Bathing.

Take of Gum Guajacum powder'd and Native Cinnabar of each one Scruple; Salt Prunel ten Grains; Conſerve of Hips Quantity ſufficient; mix, for a Bolus. To be taken in the Evening after the Purge, drinking after it four Ounces of Balm Tea.

These ſhould be continued on 'till the Symptoms diſappear; afterwards he ſhould proceed on the Uſe of Medicines to anſwer the third Intention, or ſtrengthen the Texture of the Fluids, and brace up the relaxed Fibres; for which I know of none better in theſe Caſes than the Decoction and Extract of the Peruvian Bark, and Salt Diuretic, ordered in the ſame Manner as in the Diſeaſe laſt treated of.

There is another Diſeaſe which may be relieved by this Water, which ariſes from the ſame Cauſe as this, only in a weaker Degree. I mean what is commonly called or known by the Name of White Swellings upon the Ancles, Knees, and other Joints.

This Diſeaſe may be relieved by the ſame Method as the laſt, only inſtead of Bathing they ſhould uſe that Operation commonly called Dry Pumping on the Part affected, and that every Day, beginning at firſt with one hundred Srtokes, and increaſing gradually to eight or ten Hundred.

The next Diſeaſe we ſhall treat of, which may be relieved by the internal and external Uſe of this Water, is the Sciatica, or

Hip-gout; a Diſeaſe very well known to all People, and is often attended with dangerous Symptoms, which ſometimes end in Death. This Diſeaſe proceeds at firſt from whatever weakens the Fibres of the Parts, ſo that they cannot give a proper Reſiſtance to the Fluids thrown on them by the Force of the Circulation. From whence ariſes,

Firſt, AN Accumulation of Juices on the Parts, as they have not a proper Reſiſtance from the Fibres.

Secondly, A VICIDITY of the ſame, for Want of a proper Degree of Motion.

And Thirdly, AN Acrimony, from their inteſtine Motions, which ſtimulates and corrodes the tender Fibres of the Parts, ſo as often to occaſion a Corruption of the ſame, and always a violent Pain. Theſe may be occaſioned by Chronical Diſeaſes; as by great Colds taken, or expoſing the Parts too much to the cold Air, by a Fall or ſudden Blow, by Luxation, or immoderate Venery.

This Diſeaſe may be cured by anſwering three Intentions; if the Fibres of the Part are not too much weakened, and no Matter formed thereon.

Firſt, By diluting and rendering duly fluxile, the vicid Juices which are accumulated on the Parts.

Secondly, By aſſiſting Nature to diſcharge them off by the common Outlets of the Body.

And Thirdly, To give ſuch a Degree of Elaſticity to the Fibres, as will render them capable of giving a proper Reſiſtance to the Force of the Circulation.

To anſwer the firſt Intention of the general Cure, I order the Uſe of this Water, both internally and externally, after the Body has been properly prepared; he ſhould begin with drinking this Water, at leaſt three Pints every Day, which continue about two or three Weeks; afterward begin Bathing, and Dry-pumping the Part affected; Bathing ſhould not be uſed above twice a Week, and on the Days he does not bathe, or take the Medicines we ſhall order hereafter; he ſhould be dry-pumped, beginning at firſt with two hundred Strokes, which increaſe gradually to twelve or fourteen hundred. By the Uſe of theſe the vicid Juices which are accumulated on the Parts will be diluted and rendered duly fluxile, and the Fibres of the Parts, from the Preſſure and Stimulus they receive from this Water, will be gently contracted, ſo as to prevent an Accumulation of Humours thereon during the Time of its Uſe.

The Humours being properly diluted, and put in perfect Fuſion with the Maſs of

Fluids, we muſt now proceed to adminiſter Medicines to anſwer the ſecond Intention, *i. e.* to diſcharge them off the Body; for which I know none better than the following.

Take of Manna one Ounce; Water-Gruel two Ounces; mix, and add Powder of the beſt Rhubarb and Salt Diuretic of each half a Drachm; mix, for a purging Draught. To be taken in the Morning early, twice a Week, during the Time of Bathing and Dry-pumping.

Take of Gum Guajacum powdered one Scruple; Cinnabar Native and Bezoar Mineral of each fifteen Grains; Philon. Lond. one Scruple; Syrup of Balſam Quantity ſufficient; mix, for a Bolus. To be taken every Evening after the Purge, drinking after it four Ounces of warm Balm Tea.

These ſhould be continued on till all the Symptoms are abated and the Patient has a tolerable Degree of Strength; afterward he muſt proceed to the third Thing propoſed, *i. e.* to brace up the Fibres of the Parts ſo as to render them capable of giving a proper Reſiſtance to the Force of the Circulation, and prevent an Accumulation of the Humours from being formed on them. To anſwer this Intention, I know of no better Method than a Courſe of Sea Bathing joined with the following Medicines.

TAKE of Decoction of the Peruvian Bark two Ounces; Extract of Gentian one Drachm; Salt of Steel ten Grains; Syrup of Orange Peels three Drachms; mix, for a Draught. To be taken every Day at Eleven o'Clock in the Morning and at Five in the Afternoon.

THE next Diſeaſe we ſhall treat of, which may be relieved by the internal and external Uſe of this Water, join'd with the Shop-Medicines we ſhall deſcribe, is the Chorea ſancti Viti, or St. Vitus's Dance; a Diſeaſe which is often attended with dangerous Symptoms, and is very difficult of Cure by the Shop Medicines. This Diſeaſe generally happens to Perſons between the tenth and thirtieth Year of their Age.

It diſcovers itſelf at firſt by a Kind of Lameneſs or an Inſtability in one of their Limbs, ſometimes in them all, which they move, and draw after them, in a moſt ridiculous Manner; they cannot hold ſtill the Part or Parts affected one Minute of Time, if the Arm, or Arms, be affected and they endeavour to lay it on the Breaſt or any other Part of the Body, in their Attempt the Motion of it is quite inverted by a ſtrong Convulſion, which is immediately followed by very ridiculous Motions and Geſticulations. If they go to drink, before they can bring the Cup to their Mouth, they move their Hand to and from it with a great Variety of Motions; for they cannot bring it thither in a ſtrait Line, but after manifold Turnings, occaſioned by the Convulſion of the Part, perhaps after ſome Time they may be able to bring it to the Place deſign'd; then they drink it off with great Greedineſs.

Some will dance ſo regular as if it was to Muſick; others will imitate the Motion of Beaſts and behave very ridiculouſly. I have ſeen ſome which have not ſlept for a Month together, and were obliged to have the Bed-Clothes tied on them, and notwithſtanding that, they could not ſleep, but would, when they were tired with endeavouring to break their Bonds, fall a Crying, ſometimes a Laughing. A great many People think, that when Patients are troubled with this Diſeaſe, they are either poſſeſſed with the Devil, or bewitched, and inſtead of going to a Phyſician to get Relief, will go to ſome learned Clergyman, and endeavour to get rid of the Diſeaſe by Prayers and Tears.

The Cauſe of this Diſeaſe is a Relaxation of the Fibres of the Body, and a Vicidity and Acrimony of the Maſs of Fluids, which may be occaſioned by great Frights, Terrors, Obſtruction of any of the natural Evacuations, or whatever cauſes a Vicidity of the Fluids in the capillary Veſſels; which renders theſe ſmall Veſſels incapable of coming to their uſual Contractions, and conſequently a Relaxation muſt follow; whereby the Fluids cannot have a proper Degree of Motion, but muſt fall into inteſtine Motions, and an Acrimony enſue. This Lenter and Acrimony of the Maſs of Fluids, by preſſing and irritating the capillary Nerves of the Muſcles, brings on thoſe Spaſms and convulſive Motions which are the Symptoms of this Diſeaſe.

In the Cure of this Diſeaſe there are three Intentions to be anſwered.

Firſt, To dilute and diſſolve the Vicidity and Coheſions of the Fluids.

Secondly, To diſcharge the ſuper-abundant Quantity off the Body.

And Thirdly, To increaſe the Contractions and Vibrations of the Fibres, and ſtrengthen the Texture of the remaining Maſs.

THE firſt Intention of the general Cure is anſwer'd by the internal and external Uſe of this Water, (after the Body has been properly prepared) beginning with its internal Uſe, about five or ſix half Pints every Day, and continuing thereon for two or three Weeks; afterwards proceed to Bathing, at firſt making but a ſhort Tarry in the Water, which increaſe gradually, beginning with two or three Times every Week, and increaſe to four or five Times. By the Uſe of theſe the Vicidity and Coheſions of the Fluids will be diluted and diſſolved, and brought to a proper Degree of Fluidity.

THIS Intention being anſwered, we muſt proceed to anſwer the ſecond Intention, *i. e.* to aſſiſt Nature to diſcharge the ſuperabundant Quantity off the Body; which may be performed by the following Medicines.

TAKE of Infuſion of Senna one Ounce and half; Tincture of Hiera Picra one Ounce; Syrup of Buckthorn half an Ounce; mix, for a purging Draught. To be taken in the Morning, twice a Week, during the Time of Bathing.

TAKE of Gum Guajacum one Scruple; Volatile Salt of Amber eight Grains; Conſerve of Hips Quantity ſufficient; mix, for a Bolus. To be taken in the Evening, after every Purge, drinking after it the following Draught.

TAKE of ſimple Mint Water two Ounces; Antimonial Wine (of Hux.) one Drachm;

Tincture of Valerian one Drachm and half; Syrup of Orange Peels three Drachms; mix.

CONTINUE on Bathing with the Uſe of theſe 'till the Symptoms diſappear; afterward we muſt proceed to the third Thing propoſed, *i. e.* to ſtrengthen the Texture of the Maſs of Fluids, and brace up the relax'd Fibres which may be anſwer'd by the Uſe of the following internal Medicines joined with a Courſe of Sea Bathing.

TAKE of Decoction of the Peruvian Bark two Ounces; Extract of Gentian one Drachm; Salt of Steel ten Grains; Syrup of Orange Peels three Drachms; mix. for a Draught. To be taken every Day at Ten o'Clock in the Morning and at Five in the Afternoon.

THE internal and external Uſe of this Water, particularly that Operation commonly called Dry-pumping, will be found to be of great Service in Lameneſs or Contraction of the Tendons, which proceeds from Contuſion, Wound, or Luxation of the Parts. It will likewiſe be of great Service to aged Perſons, who from a Weakneſs or Relaxation of the Parts become lame and infirm.

Having pointed out the various Diſeaſes human Nature is ſubject to which may be relieved by the Drinking, and Drinking and Bathing, of, and in the King's-Bath-Water; we will now proceed to point out the Diſeaſes which may be relieved by the internal Uſe of the Waters of the Hot and Croſs-Bath. As theſe Waters do not contain ſo great a Quantity of the volatile Ingredients, with which all theſe Waters are impregnated, as does that of the King's-Bath; and when we conſider the Nature and Quality of theſe volatile Particles we ſhall find that in Proportion to the Quantity of theſe in the Waters, will the Veſſels be ſtimulated and the Fluids rarified; as theſe Waters, when drank cold, and robb'd of all their volatile Particles, will be found to act no other than as a gentle Aperitive, and conſequently will not rarify the Fluids, nor give but a very ſmall Degree of Stimulation to the Fibres. In Diſeaſes then, where the Solids require a leſs Degree of Stimulation, and the Fluids a leſs Degree of Rarefaction than is given them by the Water of the King's-Bath, will the Uſe of theſe Waters, eſpecially that of the Croſs-Bath, be found beneficial.

THE firſt Diſeaſe which we ſhall point out, which may be much relieved by the internal Uſe of theſe Waters, is the Diabetes; a Diſeaſe which happens very frequently to Perſons in this Part of the World, and is known by the Patient diſcharging a very great Quantity of Urine, of the Taſte, Smell and Colour of Honey. The Diſeaſe generally begins with a Dryneſs of the Mouth, the Saliva is white and frothy; they make a little more Water than uſual; there is a little Thirſt, and Heat, ſomething more than natural; the Habit of Body becomes thin and the Perſon anxious and of a wavering Mind. In Proceſs of Time Thirſt is very much increaſed, and the Colliquation or Conſumption of the Fleſh and Membranes into Urine is very quick; nor does the Perſon make Water with Intermiſſion, but as ſoon as the Veſſels are relaxed, the Diſcharge is continual; their Thirſt now is very great, and drink very plentiful, but yet not anſwerable to the Quantity of Urine diſcharged; for the ematiated hectical Body imbibes a great Quantity of watry Particles from the Atmoſphere, which immediately paſſes off by Urine. If he abſtains a little Time from making Water, his Loins, Teſtes, and Ilia ſwell: At laſt he makes Water with great Pain; then Death is very nigh.

THIS Diſeaſe for the moſt Part ſeizes Perſons of a weak, lax Conſtitution, when inadvertedly they have perſiſted in a Diet that is too hot and inflammatory for ſuch a Conſtitution. Sometimes Perſons of a ſtrong robuſt Conſtitution are attacked with this Diſeaſe, but they are generally ſuch as have obſtinately indulged themſelves with too great a Quantity of ſpirituous or vineous Liquors, or ſalt and high-ſeaſon'd Meats, whereby the Blood (being a ſoft, fine, balſamic Fluid) is broke by the great Quantity of animal and lixivial Salt in it, which turns it, and ſeparates the Craſſamentum from the Serum, as Runnet ſeparates the Curd from the Whey in Milk; ſo all the Serum runs off by the Glands of the Kidneys, and leaves the Craſſamentum ſo denſe and tenaceous that the new Chyle cannot incorporate with it, but likewiſe runs off undigeſted through the urinary Paſſages.

In the Cure of this Diſeaſe there are two Intentions to be anſwer'd.

Firſt, To procure a Union between the Craſſamentum and the Serum of the Blood, with the new Chyle.

And Secondly, To ſtrengthen its Texture, and brace up the relaxed Fibres.

The firſt of theſe Intentions is anſwer'd by the internal Uſe of theſe Waters (beginning with the Water of the Croſs-Bath, afterwards proceed to that of the Hot-Bath) join'd with a Diet of Milk, Vegetables, and young white Meats, carefully avoiding all high-ſeaſon'd Food, and fermenting Liquors of any Kind. The Patient ſhould drink about three Pints, or two Quarts if he is of a ſtrong Conſtitution, of this Water every Day. This Courſe ſhould be perſiſted in 'till the Symptoms are ſomewhat abated, and the tenaceous Craſſamentum of the Blood ſo diſſolved as to join with the Serum and the new Chyle, afterward we muſt order ſuch Medicines as will ſtrengthen its Texture, and increaſe the Elaſticity and Contraction of the Fibres; for which I know no better Medicines in this Caſe than the following.

TAKE of Decoction of the Peruvian Bark two Ounces; Extract of Gentian one Drachm; Powder of Roch Allum twelve Grains; Syrup of Orange Peels three Drachms; mix. for a Draught. To be taken three Times a Day, drinking after it four Ounces of the following Decoction.

TAKE of the white Decoction one Pound and half; Gum Tragacanth ſix Drachms; boil, and to the ſtrain'd Liquor add Tincture of red Roſes four Ounces; mix.

THE next Diſeaſe we ſhall point out, which may be much relieved by the internal Uſe of theſe Waters, eſpecially if joined to the Medicines we ſhall deſcribe herein, is the Rheumatiſm; a Diſeaſe which is ſo well known among all the Inhabitants of this Iſle that it would be needleſs to define it here.

THE proximate Cauſe of this Diſeaſe is an inflammatory Lentor or Vicidity of the Fluids in the capillary Arteries of the Membranes which are about the Ligaments of the Joints, but not great enough to change it into an Impoſthumation; and it is very probable that this Lentor or Vicidity of the Fluids proceeds from a ſharp alkalious Salt which has abounded in them, and is by the Force of the Circulation thrown off on the capillary Arteries, where it is inſnared and involved in Phlegm and its oily Particles; and chiefly contributes to occaſion this Lentor in the contain'd Fluids of theſe Veſſels, which is known to be the Occaſion of a Rheumatiſm.

THAT this alkalious Salt is the chief Cauſe of a Rheumatiſm I think may be plainly proved by the following Experiments.

Firſt, The Urine of Rheumatic People being diſtilled yields no more than one-twenty-fifth or one-thirtieth Part of that alkaline Salt which may be drawn from the ſame Quantity of Urine of the ſame Perſons when in Health.

Secondly, The Blood of Rheumatic People is conſiderably heavier than the Blood of Perſons in Health, or the Blood of the ſame Perſon when ill of the Rheumatiſm is much heavier than when he is in Health.

Thirdly, The Serum of the Blood of thoſe who are ill of a Rheumatiſm, mixed with Syrup of Violets turns it green, and with Sublimate Mercury lays down a very white Concretion.

From whence we may plainly demonſtrate that there is a greater Quantity of alkaline Salt mixed with the Blood of Rheumatic People than with the Blood of thoſe who are in Health, which, conſidering the Nature and Quality of this Salt, muſt be the Occaſion of this Diſeaſe. When this ſaline Matter is ſtrongly enveloped in its oily Particles it creates a great Lentor in the Fluids, and gives Riſe to that Species of this Diſeaſe commonly call'd the inflammatory Rheumatiſm: But when this ſaline Matter is in Quantity ſuperior to its oily Particles, it diſſolves the Globules of the Blood, and gives Riſe to that which is commonly call'd the ſcorbutic Rheumatiſm.

In the Cure of this Diſeaſe there are three Intentions to be anſwer'd.

Firſt, To dilute and diſſolve the Vicidity and Lentor of the Fluids in the capillary Arteries, and to abſorb the ſharp Points of this ſaline Matter, which is known to be the Cauſe of this Diſeaſe.

Secondly, To aſſiſt Nature to diſcharge it off by the common Outlets of the Body.

And Thirdly, To ſtrengthen the Texture of the Fluids, and increaſe the Vibrations and Contractions of the Fibres, to prevent a Re-accumulation of this ſaline Matter in the Body.

The first of theſe Intentions may be anſwer'd by the internal Uſe of theſe Waters; (after the Primæ viæ are cleanſed, and the Patient, if he is young and plethoric, blooded) which ſhould be drank about three Pints a Day, and continued for three or four Weeks, beginning with the Croſs-Bath Water, and afterward proceed to that of the Hot-Bath.

After the above Time is elapſed, it will be neceſſary to order ſome Medicines to anſwer the ſecond Intention, *i. e.* to aſſiſt Nature to diſcharge this offending Matter off thro' the common Outlets of the Body; for which the following may be uſed with Succeſs.

Take of the beſt Manna ſix Drachms; Water Gruel two Ounces; mix, and add of Salt Diuretic half a Drachm; Powder of Rhubarb one Scruple; mix, for a purging Draught. To be taken in the Morning early, twice every Week.

Take of Bezoar Mineral half a Drachm; Volatile Salt of Amber fifteen Grains; Philon. Lond. one Scruple; Conſerve of Hips Quantity ſufficient; mix, for a Bolus. To be taken every Night after the Purge, drinking after it four Ounces of warm Balm Tea.

These ſhould be continued, with the Waters on the intermediate Days, 'till the Symptoms diſappear; afterward we ſhould order Medicines to anſwer the third Intention, *i. e.* to ſtrengthen the Texture of the

Fluids, and brace up the Fibres, to prevent a Re-accumulation of this offending Matter in the Body; for which I know of no better Medicine in this Caſe than the following medicated Wine, joined with a Courſe of Sea-Bathing.

Take of Powder of the Peruvian Bark one Ounce and a Half; Gentian Root, Zedoary, Galangals, and Nutmegs, bruiſed, of each two Drachms; Madeira Wine two Pound; mix, and digeſt ſix Days; afterwards ſtrain off the Wine, and to every Pint add of the Antimonial Wine (as made by Dr. *Huxham*) one Ounce and a Half. Take four Spoonfuls every Day at Ten o'Clock in the Morning and at Four in the Afternoon.

The next Diſeaſe we ſhall treat of, which may be relieved by the internal Uſe of theſe Waters, eſpecially that of the Croſs-Bath, is the Calculous Concretions formed in the urinary Paſſages, commonly called Stone and Gravel; a Diſeaſe which is always attended with great Danger, and very often mortal.

WHEN theſe Concretions are looſe and not yet formed into that hard Maſs commonly called the Stone, it may be known by the following Symptoms, *i. e.* a Pain in the Region of the Loins, which is continual, and heavy, like a Weight in the Subſtance of the Kidneys and Parts adjacent, with a Nauſea and Vomiting; the Urine is always very turbid, and depoſits a large Quantity of a ſand-like Subſtance. This Pain is often very acute when the gravelly Subſtance remains at the Head of the Ureters; but is much leſſened when it is protruded forwards.

BUT when this Calculous Subſtance is ſtrongly connected together and forms that hard Maſs call'd a Stone; and this in the Subſtance of the Kidneys; it may be known by a violent Pain in the Region of the Loins, which is often very acute with a ſtrong Vomiting, and bloody Urine, after Motion more violent than ordinary; without any Relief or Eaſe from Medicines againſt a Strangury: But when the Stone paſſes out of the Pelvis into the Ureter, a violent Pain follows; an Inflexibility of the Spine, by the Extenſion and Compreſſion of the Nerves; a great Heat of the Loins, a Numbneſs of the Leg, and a Retraction of the Teſticle of the ſame Side, by the Action of the Nerves, the Urine is either bloody, or very purulent and ſmall in Quantity. But when the Stone is fallen into the Bladder, the Urine is made immediately in a great Quantity, very thick, turbid, and blackiſh; except the Stone falls immediately acroſs the Neck of the Bladder, then the Urine is entirely obſtructed. The Symptoms of a Stone in the Bladder are, a Senſe of Weight in the Perinæum and the Region of the Groin, a perpetual Deſire of making Water, which is ſucceeded by a violent Pain, eſpecially in the Top of the Penis, with a troubleſome Itching, and frequent involuntary Erection of it. But the moſt certain Sign is, that it may be perceived by Feeling with the Catheter.

THE Cauſe of this Diſeaſe is tartarous Salts conveyed out of the Blood into the ſmall Ducts of the Kidneys. It may be made appear by inconteſtable Experiments that the Urine even of the moſt healthy Perſons is replete with ſuch concreſcible Matter as may give Riſe to this Malady, altho' they have no Manner of pre-diſpoſing Cauſe or Inclination to it: But then this Matter even in a fluid State may be plainly proved to contain and impriſon a large Quantity of that elaſtic Matter which the great *Newton* has ſhewn to be the Cauſe of Attraction and Coheſion in all Bodies, and is inclined to cohere with any contiguous Body of a rough or unmucus'd Surface. Now the Kidneys contain a great Number of minute Cells, ſubſervient to the urinary Secretion, as may be proved by anatomical Inſpection; altho' there may be other ſecretory Ducts likewiſe, leading directly from the Arteries, without any ſuch interpoſed Cells. If therefore a Coagulum or inſoluble Matter ſhall be lodged in the Cavity of ſuch a Cell, through which the ſecreted Urine continually flows, or becomes there more accumulated and arreſted from the Obſtacle, it may inſenſibly grow up by repeated Accretions of the ſaid calculous Matter that lurks inviſibly in the Urine, and by the ſame Cauſe be greatly increaſed: For it has been made manifeſt that Stones have been found, not only in the Pelvis, but alſo in the very Subſtance of the Kidney. From whence it plainly appears, that theſe calculous Concretions of the urinary Paſſages is nothing otherwiſe than the tartarous Salts with which the Urine is replete, eſpecially of thoſe Perſons whoſe Digeſtions are weak, and cram their feeble Bodies with high-ſeaſon'd Foods, tartarous Wines, *&c.* ſtrongly connected together by that Eſſence which keeps all Bodies from falling into an inpalpable Powder.

ALL Perſons whoſe Digeſtions are weak, and who uſe large Quantities of tartarous Wines or Foods that contain a great Quantity of Salt, ſhould be very careful to guard againſt this Diſeaſe, and to prevent theſe Salts from coaleſcing into a calculous Subſtance: For which, Medicines that are replete with oily Particles, and thin diluting Liquors that are weakly impregnated with an Acid, may be uſed to Advantage. But when theſe Concretions are actually formed in the Kidneys or urinary Paſſages, the Cure is very difficult, more eſpecially when form'd into that hard Maſs commonly called a Stone, and the Caſe requires very prudent Management, eſpecially when the calculous Matter is to be brought away by the Ureters.

Nothing is more common, nor I think more erroneous, than to give ſtrong forcing Diuretics in this Caſe, with the View of forcing out the ſtony Concretions with the Urine; this Practice has reign'd very much in this Kingdom ſince the Recipe of that deſtructive Hodge-Podge was dearly purchas'd and publiſh'd; which to my certain Knowledge has kill'd almoſt as many as the Diſeaſe for which it is order'd, ſince it has been publiſhed. Nothing is more ridiculous, than for any Perſon of common Senſe to think that there is any ſuch Medicine in the World as will diſſolve the Stone in the urinary Paſſages, as Nature now ſtands conſtituted; for if they would but conſider, that a Medicine which is capable of diſſolving a Maſs of Matter, where the Particles with which it is compoſed are ſo ſtrongly connected together, is more capable of diſſolving Bodies whoſe Particles are not ſo ſtrongly connected; therefore a Medicine which will diſſolve a

Stone in the urinary Paſſages, muſt firſt deſtroy the Texture of the Blood and Juices; and then diſſolve or ulcerate the Kidneys, before it can come to touch the Stone; then, if its active Particles are not abſorbed by the oily Particles of the Blood and Humours, it will ſooner diſſolve the Veſſels in which the Stone is contained, than the Stone itſelf, as their Particles are not ſo ſtrongly connected as are thoſe of the Stone; ſo that any Perſon may judge how ſalutary Medicines of this Kind muſt be: And I am very well aſſur'd this has been the Caſe of ſome Hundreds, ſince this Medicine was publiſhed by parliamentary Authority.

These Concretions of the Kidneys or urinary Paſſages will never be forced away while the Patient is in great Pain; although when the Pain ceaſes it very often comes away of its own Accord with only the Help of Nature. The Reaſon of this is very plain, for Pain always cauſes a Contraction of the

Fibres of the Veſſels, and when the Pain ceaſes, the Fibres will not only re-aſſume their natural State, but fall into ſome Degree of Relaxation. Therefore if we would be Friends to Nature, in this Diſeaſe, we muſt firſt endeavour to allay the Pain and Stimulus, and ſecondly, to relax and lubricate the urinary Veſſels. I would not have any Perſon think I mean to deſtroy all the Stimulation the Veſſels receive from the contained Fluids; no, I mean only ſuch as is capable of raiſing that diſagreeable Senſation call'd Pain: A ſmall Degree of Stimulation being abſolutely neceſſary to prevent the Fibres of the Veſſels from falling into a State of Inactivity.

THESE Waters, join'd with the following Medicines, anſwers all the Intentions of preventing, and relieving, this Diſeaſe, as far as any Medicines is capable of doing it. The Waters drank for ſome Time, dilutes and diſſolves thoſe tartarous Concretions of the urinary Paſſages, which give Riſe to this Diſeaſe, and waſhes them off by Urine; and conſequently may be ſaid to prevent this Diſeaſe. When this, or ſome other Medicine that anſwers the ſame Intention, has been neglected, and the Concretions are become large, and their Particles ſtrongly connected together, occaſioning ſevere Pains; it will be neceſſary, if we expect to give Relief in this Diſeaſe, to anſwer the following Intentions.

Firſt, To allay the violent Stimulation of the Veſſels; and the Pain occaſioned thereby will ceaſe of Courſe.

Secondly, To dilute, and diſſolve, theſe Concretions in the urinary Paſſages as much as the Texture of the Body will admit of.

And Thirdly, To lubricate the urinary Veſſels, and waſh them off by Urine.

THEREFORE, to anſwer the firſt Intention, if the Patient is young or plethoric, it will be neceſſary to order Bleeding, and immediately after the following Clyſter, which ſhould be repeated ſo often as the violent Pain returns.

TAKE of the common pectoral Decoction eight Ounces; Extract of Opium five Grains; Oil of Mucilages four Ounces; mix, for a Clyſter.

DURING the Uſe of theſe the Parts are to be often and well fomented with ſuch as the following Fomentation.

TAKE of Marſh-mallow Roots ſix Ounces; Mallows, Camomile Flowers, Melilot, of each four Handfuls; Linſeed and Fœnugreekſeed, of each three Ounces; boil in a ſufficient Quantity of Fountain Water; and to every ſix Pound of the Decoction add of Milk one Pound; mix, for a Fomentation.

By the Uſe of theſe the Pain will be abated and the firſt Intention anſwered; afterward we ſhould immediately purſue a Courſe of ſuch Medicines as will anſwer the ſecond Intention, *i. e.* to dilute, and diſſolve, theſe Concretions as much as the Texture of the Body will admit of; for which I know of no better Medicine than the internal Uſe of theſe Waters; which, to anſwer this Intention, ſhould be drank at leaſt two Quarts a Day, and be continued for ſome Time. During their Uſe we ſhould likewiſe order ſome Medicines to anſwer the third Intention; for which I know none better than the following.

Take of the common Decoction for Clyſters ten Ounces; Venice Turpentine (in the Yolk of an Egg diſſolved) half an Ounce; Linſeed Oil drawn without Fire three

Ounces; mix, for a Clyſter. To be injected every ſecond Morning.

Take of the common Pectoral Decoction one Ounce and half; Oil of ſweet Almonds ſix Drachms, Balſam of Tolu half a Drachm, theſe in a proper Quantity of the Yolk of an Egg diſſolved; Syrup of Marſh-mallows half an Ounce; mix, for a Draught. To be taken every Night going to Bed.

The Diet during this Courſe of Medicine ſhould be very thin and emollient; an Infuſion of Linſeed drank a long Time like Tea, will be found very beneficial, as likewiſe will an Infuſion of Marſh-mallow Roots ſweetened with Honey.

Thus far we have gone to point out the Diſeaſes which may be relieved by the internal Uſe of theſe Waters; now we will proceed to examine what Diſeaſes may be relieved by theſe Waters, when we join

Bathing to their internal Uſe. Theſe muſt be ſuch Diſeaſes as owe their Riſe to a cold pituitoſe Blood, and from thence a Weakneſs and Relaxation of the Glands; and theſe happening to Perſons whoſe Fibres are very weak, and not capable of bearing a violent Rarefaction of the Fluids. Here the Uſe of theſe Waters internally and externally will be found very beneficial; as by their Uſe the Vicidity of the Blood in the capillary Veſſels is diſſolved, its Globules develop'd, and a gentle Stimulus given to Solids; by which their Contractions will be increaſed, and the Glands rendered capable of performing their Office.

THE firſt Diſeaſe we ſhall deſcribe, which may be relieved by the internal and external Uſe of theſe Waters, is the Fluor Albus, or Whites; a Diſeaſe which very often troubles the Female Sex, and is often attended with dangerous Conſequences. The Cauſe of this Diſeaſe is a cold pituitoſe State of the Fluids, and a Relaxation of the uterine Glands, which, inſtead of the menſtrual Diſcharges, ſecrets from the Blood only a ſlimy yellowiſh Matter. The Whites are uſually attended with a ſpontaneous Laſſitude, and a heavy aching Pain of the Loins. The Humour diſcharged is for the moſt Part white, now and then yellowiſh, ſerous, more or leſs pituitous and ſlimy: In the Beginning it is mild and without Smell, but by Degrees grows ſharp and excoriating.

In the Cure of this Diſeaſe there are two Intentions to be anſwered.

Firſt, To dilute and diſſolve the vicid pituitous Fluids, and promote the glandular Secretions.

Secondly, To increaſe the Contractions and Vibrations of the Fibres, whereby they may be enabled to give a proper Degree of

Motion to the Fluids, to prevent their falling into a pituitous State.

The firſt Intention is anſwered by the Uſe of theſe Waters, beginning with Drinking, and afterward proceed to Bathing in them. This Courſe ſhould be continued for four Weeks, or till the Symptoms are abated; afterward we ſhould order a Medicine to anſwer the ſecond Intention; for which I know of none that's better than the following, eſpecially when join'd to a dry nouriſhing Diet.

Take of Decoction of the Peruvian Bark half a Pound; Balſam of Tolu half an Ounce; boil, 'till the Balſam is diſſolved; afterwards add Extract of Gentian three Drachms; Syrup of Orange Peels one Ounce; mix. Take four Spoonfuls three Times a Day.

The next Diſeaſe which we ſhall point out, which may be much relieved by the

Uſe of theſe Waters internally and externally, is the Cachexia, or ill Habit of Body, which afflicts the Female Sex, after a long continued Obſtruction of the menſtrual Flux. This Diſeaſe is always attended with dangerous Conſequences and very often ends in Death. This Diſeaſe is known to be preſent, when, after the menſtrual Flux is promoted, there remains a Paleneſs, or Yellowneſs of the Skin; an heavy Senſe, or Inactivity of the whole Body; a Swelling or Yellowneſs under the Eyes, and in thoſe Parts where the cellular Web makes the leaſt Reſiſtance; an Inflation, and Cold or œdematous Swelling of the Parts that are moſt diſtant from the Heart; Throbbings or violent Palpitations of the Heart and Arteries, even from the ſlighteſt Exerciſes, that are ſuddenly increaſed to any notable Degree; Urines that are thin and crude; without a Sedement; Sweats that come on ſpontaneouſly, or without any manifeſt Cauſe, and appear perfectly watry; and laſtly, it ends in a Leucophlegmacy and Dropſy, or elſe in a Conſumption.

The immediate Cauſe of this Diſeaſe is a Depravity in Nature of the nutritious Humours and an Obſtruction and Relaxation of the Veſſels which receive thoſe Humours.

This is occcaſion'd, Firſt, by a Plethora, from the Obſtruction of a natural Evacuation.

Secondly, A Relaxation of the Veſſels; their Elaſticity and Contractions being overpower'd by an additional Quantity of Fluids.

And Thirdly, A Vicidity of the Fluids in the Capillary Veſſels, from their not having a proper Degree of Motion.

And Laſtly, An Obſtruction of thoſe Veſſels, the immediate Conſequences thereof.

EVERY Day's Obſervations teach us, that there is daily a great Quantity of our Juices waſted from the Body, by the continual Machinary thereof, by which alſo the Solids have many Parts rubbed off from them; and thus by a neceſſary Conſequence of its own Structure, the Animal Body would ſoon deſtroy itſelf, if Nouriſhments were not to reinſtate, or fill up the Places of thoſe Parts, that are naturally every Moment falling away from ſome Part or other.

THE Continuation of Life and Health therefore demands a perpetual Recruiting both of the Humours and of the Solid Parts, with a nutritious Matter, of due Quantity and Quality, conformable to what is daily exhauſted from them: The ſupplying the Body with this Matter is call'd Nouriſhment, and the Act or Application of it by the Powers is call'd Nutrition.

This Reſtitution therefore of loſt Subſtance from the Body, muſt be ſupplied from the Aliments we take in, ſo alter'd by the digeſtive Powers, as to become of a reſembling Nature with the ſolid and fluid Parts of our Body, which are to be recruited by it: But as the whole Hiſtory of Digeſtion informs us that all our Aliments are firſt reduced into a Liquid, before they can be capable of nouriſhing the Body; therefore the Matter of Nouriſhment is for the moſt Part call'd the nutritious Fluid; altho' the Waſte of the Solids is to be likewiſe repaired from that Liquid. If therefore this Change or Aſſimulation be not duly performed, the nutritious Fluid will be of a depraved Diſpoſition and incapable of recruiting the Parts waſhed off from the Body.

Likewise when the nutritious Fluid is duly elaborated, or digeſted, it ſtill requires to be diſtributed through every Part of the Body; and therefore the Veſſels that are to convey it muſt be alſo in a fit Condition to receive and move it; whence again there may poſſibly be lodged Impediments to Nutrition in theſe Veſſels themſelves.

Laſtly, WHEN the nutritious Fluid has been at length compleatly aſſimulated, and diſtributed into the pervious Veſſels that are to receive it, it requires to be further moved and applied by thoſe Veſſels to ſuch Points of the Solids as have Deficiencies to be ſupplied. But this Motion again, by which the nutritious Fluid is diſtributed throughout the whole Body, and applied to each of its individual Parts, may be too weak and languid, which occaſions more Matter to be retain'd than is required within the Body, from whence an Expulſion of it becomes neceſſary; nor are the Parts of the nutritious Fluid in this Caſe applied with a due Force to the Solids which they are to recruit: Whence the Body becomes fill'd indeed, but not properly nouriſhed, nor ſupported in its due Strength. This is the State of the of the Body of thoſe Females which labour under this Diſeaſe; their Solids are relaxed and their Digeſtions imperfect, whence muſt follow a crude, undigeſted, and vicid State of the Fluids of the Body; which are the immediate Cauſe of this Diſeaſe.

In the Cure of this Diſeaſe there are three Intentions to be anſwer'd.

First, To reſolve or reſtore Fluidity and a proper Degree of Motion to the vicid, clammy or coheſive Humours.

Secondly, To diſcharge off the Body (when they are diſſolved) ſuch as are not uſeful for the Nouriſhment thereof.

And Thirdly, To increaſe the Vibrations and Elaſticity of the Fibres, and ſtrengthen the Texture of the Fluids, whereby the Digeſtions and glandular Secretions may be regularly carried on.

THE firſt Intention is anſwer'd, after the Body has been prepar'd, by the internal and external Uſe of theſe Waters; beginning with their internal Uſe, and perſiſting therein for two or three Weeks, drinking about two Quarts every Day: Afterwards proceed to Bathing. By the Uſe of theſe the cold vicid Humours will be diſſolved, render'd duly fluxile, and capable of forcing open the Obſtructions of the capillary Veſſels.

DURING the Time of Bathing we ſhould order ſome Medicines to anſwer the ſecond Intention, *i. e.* to diſcharge off the Body ſuch Humours as are not uſeful for its Nouriſhment; for which the following will be found to be excellent.

TAKE of the beſt Manna ſix Drachms; Water-Gruel two Ounces; mix, and add Powder of Rhubarb and Salt Diuretic of each one Scruple; mix, for a purging Draught. To be taken early in the Morning, once every four or five Days, on the Days ſhe do not bathe.

Take of ſimple Mint Water one Ounce and half; Powder of Ruſſia Caſtor and Volatile Salt of Amber of each ten Grains; Antimonial Wine (of *Huxham)* one Drachm; Syrup of Orange Peels half an Ounce; mix, for a Draught. To be taken every Night after the Purge.

These, with the Waters, ſhould be continued 'till the Fluids are render'd duly fluxile, and the Veſſels pervious; which may be known by the Abatement of the Symptoms and the Change of Countenance.

Afterward we ſhould order ſuch Medicines as will anſwer the third Intention and finiſh the Cure; for which I know none better than the following.

TAKE of Decoction of the Peruvian Bark one Ounce and half; Salt of Steel eight Grains; Syrup of Orange Peels half an Ounce; mix, for a Draught. To be taken every Day at Eleven o'Clock in the Morning and at Four in the Afternoon.

THE next Diſeaſe we ſhall point out, which may be relieved by theſe Waters, is that Weakneſs, Lameneſs, and very often Procidentia Uteri, which happens to Women after difficult Births; it is always attended with dangerous Symptoms and very often ends in Death.

THIS is cauſed from a Coldneſs and Vicidity of the Fluids, from the great Loſs they ſuſtained in and after the Time of Labour; and a Relaxation of the uterine Veſſels, from their being extended ſo much beyond their natural Tone, and are render'd incapable of contracting themſelves again, except by a gentle Stimulus. But as the Force of the Circulation is ſo much abated and its innate Heat and Stimulus decreaſed, no Aſſiſtance can be had from the Fluids, and conſequently theſe relaxed Veſſels muſt remain in a State of Relaxation; and a Weakneſs, &c. enſue, except aſſiſted by Art.

In the Cure of this Diſeaſe, we muſt firſt, diſſolve the Vicidity, and ſtrengthen the Texture of the Maſs of Fluids.

And Secondly, By a gentle Stimulus, gradually increaſe the Vibrations and Elaſticity of the Fibres, whereby they may be render'd capable of returning to their Spheres of Contact.

These two Intentions may be anſwered by the internal and external Uſe of theſe Waters, join'd with the following Medicines.

The Patient ſhould firſt begin with drinking the Water for eight or ten Days, about three Pints every Day; and obſerve to uſe a warm nouriſhing Regimen. Afterward proceed to Bathing and the Uſe of the following Medicines; making a ſhort Stay in the Bath at firſt and increaſe it gradually.

TAKE of the Gum Pill three Drachms; Extract of Gentian one Drachm; Balſam of Peru a Quantity ſufficient; mix, for Pills; ten out of every Drachm. Take four Pills three Times a Day, drinking after them the following Draught.

TAKE of the Decoction of the Peruvian Bark one Ounce and a half; Volatile Salt of Amber five Grains; Syrup of Orange Peels half an Ounce; mix.

THESE ſhould be omitted on the Days of Bathing, except the Evening Doſe, which ſhould be taken about Seven or Eight o'Clock. Gentle Exerciſe will likewiſe be very uſeful, join'd with theſe Medicines, as being carried in a Sedan Chair, Chaiſe, Coach, or any other Vehicle.

The next and laſt Diſeaſe we ſhall deſcribe, which may be relieved by theſe Waters at their Source, is the Rickets; a Diſeaſe very well known in this Kingdom, and happening chiefly to Children, between the firſt and ſeventh Year of their Age; it is oftentimes attended with dangerous Symptoms and ſometimes ends in Death.

The proximate Cauſe of this Diſeaſe is a a Relaxation of the Fibres of the Muſcles and Ligaments of the Joints, and a Vicidity of the circulating Fluids. Theſe may be occaſion'd by bad Nurſing, Colds taken, obſtructed Perſpiration, Want of proper Exercife, &c.

In the Cure of this Diſeaſe we muſt firſt, dilute and diſſolve the Vicidity of the Fluids; and ſecondly, brace up the relaxed Fibres.

Both theſe Intentions are anſwerd by the Uſe of theſe Waters, and the Cold-bath; which ſhould be uſed as follows.

Firſt, We ſhould begin with the Drinking of theſe Waters, about three Ounces at a Time, or according to the Age and Strength of the Child; and continue this for eight or ten Days. Afterward begin with Bathing; making but a ſhort Tarry in the Water at firſt, which increaſe gradually according to the Age or Strength of the Child.

These ſhould be continued till the Fluids are render'd duly fluxile, which may be known by the Symptoms being abated, and the Child beginning to gain Strength; afterwards it will be neceſſary to begin a Courſe of Cold-bathing, (if it was in the Sea it would be the beſt) to brace up the relaxed Fibres and ſtrengthen the Ligaments of the Joints, as the Cold-bath will be found much more effectual for this Purpoſe than Bathing in theſe Waters.

In the preceding Sheets we have pointed out the various Diſeaſes Human Nature is ſubject to, which may be relieved by theſe Waters at their Source, or uſed immediately after they are drawn therefrom; we will now proceed to examine into the Qualities of theſe Waters when cold, and carried at any Diſtance from their Source, and point out the Diſeaſes Human Nature is incident to, which may be relieved by them then.

We muſt conſider that when theſe Water are cold they are robbed of all their volatile Ingredients, as we have plainly demonſtrated in the firſt Part of this Treatiſe, as well as of their Heat, and there remains only a ſimple Water impregnated with ſome Sea and Vitriolic Salts, a ſmall Quantity of Chalybeat Particles, and an abſorbent Earth, and may be ſtrictly called a Detergent: Therefore in all Diſeaſes where Detergents are proper theſe Waters may be ſucceſsfully uſed.

The firſt Diſeaſe we ſhall take Notice of, which may be relieved by theſe Waters when cold, is the Aſthma; a Diſeaſe, very well known to all the Inhabitants of Europe; a Diſeaſe, dangerous in itſelf, often the Forerunner of a Dropſy, and Conſumption, and ſometimes ends in Death.

Authors have diſtinguiſhed this Diſeaſe into three different Kinds, *i. e.* the Dyſpnœa, Aſthma, and Orthopnœa; but I think this is mere Fiction and Tautology, ſince they only deſcribe the ſeveral Degrees of the ſame Diſeaſe.

A Dyſpnœa is the firſt Degree or Stage of this Diſeaſe, and proceeds only from a ſlight Affection of the Lungs, ſuch for the moſt Part attends the Cachexia, and ſcorbutic Perſons, and may be more properly termed a Shortneſs of Breath than a Difficulty of Breathing.

The Aſthma is a Difficulty of Breathing, and very juſtly ſo called, wherein the Pipes wheeze and ſing at every Expiration; ſo that, in this Caſe, you may hear the hiſſing Noiſe at ſome Diſtance. This generally proceeds from an obſtructed Perſpiration, and is attended with a moiſt Cough.

An Orthopnœa is the laſt Stage of this Diſeaſe, or Difficulty of Reſpiration, in which the Patient labours for Breath with all his Might, and is in the utmoſt Danger of being ſuffocated, unleſs he either ſits or ſtands upright, with his Neck erected or ſtretched out. They that have been much ſubject to the former two, never fail of being ſeized with this laſt Species.

I think ſome of the modern Authors have run a Diviſion upon this Diſeaſe, more agreeable to the Laws of the Animal Oeconomy, and the Symptoms that attend it; as ſome expectorate very much in an aſthmatic

Fit, and others but very little, therefore they have diſtinguiſhed it into a humid or convulſive, *i. e.* a moiſt or dry Aſthma.

THE Parts affected, in Perſons labouring under the Aſthma, are all thoſe that ſerve for the Uſe of Reſpiration; ſuch are the Lungs, the Aſperia Arteria, Diaphragm, and Intercoſtal Muſcles. That which ariſes from the Preſſure of the Waters in the Dropſy, we ſhall not take Notice of here, as it is a Symptom of that Diſeaſe, and is relieved when the Waters are evacuated.

THIS Diſeaſe attacks different, in different Conſtitutions; and great Care ſhould be always taken to diſtinguiſh between the Fits and the Diſeaſe. The firſt Stage being that State of Breath which conſtitutes the Eſſence of the Diſeaſe, and the two laſt that which indicates the Paroxiſm or Fit. The Diſeaſe is moſt commonly form'd before the Invaſion of the Fit, and the Fit, generally, in this, as in all other Diſeaſes, is an Effort of Nature to diſlodge the Oppreſſion; and this plainly teaches us the Reaſon why the firſt and laſt Fits are generally the moſt terrible, becauſe, in the firſt, there is the greateſt Quantity of Matter to be overcome, and in the laſt, the Patient dies, becauſe the Contraction and Vibration of the Fibres are highly impaired; from whence the contractile Powers of the Arteries cannot overcome the Vicidity and Tenacity of the Phlegm, *i. e.* cannot properly attenuate it, in order either to Expectoration, or a freer Circulation.

THIS Diſeaſe is uſher'd in with a Shortneſs of Breathing, accompanied with an oppreſſive Weight at it were on the Breaſt, and a dry-tickling Cough, which much increaſes towards the Evening. The Habit of Body is for the moſt Part ſcorbutic, and the Blood vicid or ropy. If the Patient happens to go up an Aſſent, he pants, blows, and is almoſt ready to faint, for Want of Breath. Upon taking the leaſt Cold, or when Perſpiration is obſtructed, they wheeze, and the Pipes ſing in every Expiration; and and thus they continue for ſome Time, till a ſudden Fit attack them; whereupon the Lungs and reſpiratory Organs are greatly oppreſt, and a free Reſpiration hinder'd. They immediately riſe, if in Bed, and labour for Breath, ſtretching out the Neck to gain upon the Air, and are every Moment in Danger of being ſuffocated. In theſe ſevere Fits the Face grows black, which is a bad Sign.

To theſe grievous Symptoms of difficult Breathing, Load and Straitneſs of the Breaſt, which always attend the ſeverer Fits of this Diſeaſe, there often happens a Cough, which, tho' very diſagreeable, and ſometimes diſturbing, yet, is certainly of very great Advantage to the Patient. The Pulſe is quick, languid, and fluttering. The Urine, in the

Beginning and Progreſs of the Fit, is pale and thin, but towards the Decline, ſeparates a red Sand, and grows turbid.

THE Cauſe of this Diſeaſe is whatſoever, whether Liquids or Solids, occaſion that the Blood runs more ſlowly thro' the Lungs, that is either by ſtraitning the Canals, or thickning the Blood, or by hindering the Motion of the nervous Fluid, ſo that they cannot give ſuch a Degree of Motion to the Muſcles as is requiſite to render them capable of elevating the Breaſt; or the Blood being more rarefied, or more in Quantity, ſo that there is not ſufficient Room left to receive it in the Veſſels of the Lungs: All theſe will give Riſe to this Diſeaſe, and owe their Origin to

Firſt, ANY tough or mucilaginous Juice ſticking in the Bronchia.

Secondly, Any Body, which by its violent Stimulus, cauſes too great a Contraction of the Fibres of the Lungs or reſpiratory Organs, as the Fumes of Metals, &c.

Thirdly, By a Conſumption of the Lungs, by Matter or Pus thrown upon them.

Fourthly, Vehement Exerciſe.

Fifthly, A Suppression of any of the uſual Evacuations.

Sixthly, An ill Habit of Body from a vicid Blood, by Means of an undigeſted Chyle.

Seventhly, Sudden Frights.

In the Cure of this Diſeaſe there are three Intentions to be anſwer'd.

Firſt, To dilute and diſſolve the Vicidity and Tenacity of the Blood and Juices, and lubricate the reſpiratory Organs.

Secondly, To aſſiſt Nature to diſcharge this ſuper-abundant Quantity of Juices off the Body.

Thirdly, To ſtrengthen the Texture of the Maſs of Fluids, and increaſe the Contractions and Elaſticity of the Fibres, whereby they may be rendered capable of giving ſuch a Degree of Motion to the Fluids as to prevent the falling into Coheſions and Viscidity.

In the Fit we muſt carefully obſerve the two following Intentions.

Firſt, To relieve the Straitneſs of the Bronchia and Blood Veſſels.

Secondly, To remove that Load and Preſſure off the Breaſt, that greatly obſtructs Reſpiration.

Both which Intentions are greatly anſwered by Bleeding, lenient Cathartics and

Pectorals: For theſe unload the Veſſels and increaſe the Motion of the Lungs, by immediately ſubſtracting from the Cauſe, and thereby aſſiſting the Contractions of the Veſſels to overcome the Vicidity of the Fluids.

To anſwer the firſt Intention for the Cure of the Diſeaſe, *i. e.* to dilute and diſſolve the Vicidity and Tenacity of the Blood and Juices, I know no better Medicine than theſe Waters drank cold, more eſpecially if to every Half-pint Draught, which the Patient ſhould drink at leaſt eight Times every Day, we add of the Volatile Salt of Amber eight Grains; and to lubricate the reſpiratory Organs, and aſſiſt Expectoration the following Medicine taken every Night going to Bed will be found excellent.

TAKE of Sperma-ceti (in the Yolk of an Egg diſſolved) one Drachm; Flowers of Gum Benjamin one Scruple; Antimonial Wine (of *Huxham)* one Drachm; Simple

Alexiterial Water two Ounces and a half; Syrup of Balſam three Drachms; mix, for a Draught.

After this Courſe has been perſiſted in for two or three Weeks, it will be neceſſary for the Patient to take ſome Medicines to anſwer the ſecond Intention, *i. e.* to aſſiſt Nature to diſcharge this ſuper-abundant Quantity of Juices off the Body; for which, ſuch as the following will be found to anſwer our End.

Take of Lenitive Electuary two Drachms; Powder of Rhubarb and Salt Diuretic of each one Scruple; Syrup of Buckthorn Quantity ſufficient; mix, for a Bolus. To be taken every fourth or fifth Morning.

Take of ſimple Mint Water two Ounces; Tincture of Ruſſia Caſtor and Antimonial Wine (of *Huxham*) of each one Drachm; Flowers of Gum Benjamin twelve Grains;

Syrup of Balſam two Drachms; mix, for a Draught. To be taken at Night after the Purge.

THE Uſe of theſe ſhould be perſiſted in 'till the Fluids are render'd duly fluxile, and the Veſſels pervious; which may be known by the Symptoms diſappearing.

AFTERWARDS we ſhould order ſuch Medicines as will anſwer the third Intention, to prevent a Relapſe, for which the following is excellent.

TAKE of the Decoction of the Peruvian Bark two Ounces; Extract of Gentian one Drachm; Antimonial Wine (of *Huxham)* one Drachm; Salt Diuretic one Scruple; Syrup of Orange Peels three Drachms; mix, for a Draught. To be taken three Times every Day.

During this Courſe of Medicine the Patient ſhould carefully avoid all Spirituous or Vineous Liquors, all high-ſeaſon'd Foods, Pickles, &c. and uſe a Regimen of tender white Meats, Milk, Vegetables, and ſmall Liquors. He ſhould omit the Bath Waters on the Days he takes his purging Medicine.

The next Diſeaſe we ſhall take Notice of, which may be much relieved by the Uſe of theſe Waters when drank cold, is a Conſumption; either of the Lungs, or of the whole Body, which is commonly call'd a nervous Atrophy.

But before we proceed any farther in defining this Diſeaſe, we muſt take Notice, that what we are going to inſert is entirely new, and we muſt expect to be rediculed by ſome of the Faculty, who call themſelves old Practitioners, and others who will follow their Example, if it is ever ſo erroneous; and any Perſon may as ſoon move Mount Ætna, as put them out of their old miſguided Notions, although, he charms them ever ſo wiſely; but I muſt beg ſuch to ſuſpend their Redicule 'till they can build their own magnificent Structure upon a more ſolid Foundation than that of Sand, on which it is now built, becauſe it is in Danger of being thrown down with every Storm.

Now we will proceed in our Diſcourſe on the Nature, Cauſe, and Method of Cure of this Diſeaſe.

It is the Opinion of moſt of the antient and modern Phyſicians that the Cauſe of a Conſumption is an Acid abounding in the Blood, or the Collection of ſome Matter, to which they are pleaſed to give the Term, *malignant:* We ſhall firſt prove from their own Aſſertions that their Notions of the Cauſe of the Diſeaſe is baſeleſs, and their Method of Cure for it abſurd; and afterward we will ſhew the true Cauſe of the Diſeaſe according to the genuine Laws of Matter and Motion, and a Method of Cure which is founded upon theſe Laws.

It is alledged by the greateſt Number of Phyſicians who have writ on this Subject, and think themſelves primary, and others which follow their Notions, whom we will call Satellites, that the procatarctic Cauſes of this Diſeaſe, are,

Firſt, A Suppression of ſome accuſtomary natural Evacuation, as are the Menſes, Lochia, old Ulcers, Hæmorrhoids, Iſſues, and Sweating of the Feet: Without correcting of the Cauſes from whence theſe proceed.

Secondly, Great Paſſions of the Mind; ſuch as Fear, Anger, or Sorrow.

Thirdly, Too large and unſeaſonable Quantities of Meats or Liquors, eſpecially thoſe of the ſpirituous Kind; which they have obſerved to be frequently accompanied with Care and Sorrow, and ſo give Riſe to this Diſeaſe.

Fourthly, A NEGLECT of due Exerciſe.

Fifthly, NIGHT-STUDIES, long Watching, and alſo Sleeping immediately after Eating in the Day-Time.

Sixthly, A THICK and marſhy Air.

Seventhly, CONTAGION.

Eighthly, CHALKY Stones in the Lungs.

Ninthly, AN ill Conformation of the Thorax.

And Tenthly, OTHER Diſeaſes amongſt which they accuſe hyſterical Affections, Intermitting Fevers, and Diſeaſes of the Breaſt ill-managed, as an Aſthma, or Pleuriſy, or a Peripneumony.

Now we will examine how this Diſeaſe, according to their own Aſſertions, can proceed from an Accumulation of Acidity, or what they are pleaſed to term, a malignant Matter, in the Blood. If any of the natural Evacuations were Excretions of an acid Liquor, then by their Suppreſſion would an acid Humour be accumulated in the Body; but the menſtrual Blood, the Hæmorrhoids, or Lochia, are not Excretions of an acid, but a laudable Blood. By Iſſues alſo, and Ulcers, is evacuated a good Blood; only that it runs to Pus after it is parted from the Blood Veſſels. Nor does ever the Blood, or any Humour of the Body, contract an Acidity, unleſs by Stagnation out of the Veſſels; and I have, by many Experiments, endeavour'd to diſcover any Acid predominant in it even then, but in vain; others that are more curious have pretended to have extracted an Acid from the human Blood; but I muſt confeſs I ſhould be very glad to ſee it. So that from their own Aſſertions, Stagnation, or the Cauſes of Stagnation, muſt be the Cauſes of a Conſumption.

WHAT they advance in the ſecond and third Place, ſufficiently ſhew, not an acid but a vicid Blood do attend; ſince a Fear and Concern of the Mind always decreaſes muſcular Motion, and conſequently a decreaſed Velocity, and beginning Vicidity of the Fluids; but Anger always cauſes a Rarefaction of the Fluids: To which if there be added ſpirituous Drinks, that is, what increaſes ſuch Rarefaction, there will be too great a Quantity of Fluids, becauſe they will take up too great a Space; and therefore by Reaſon of their Quantity, and not their Acidity, will they break the containing Veſſels and make Ulcers.

WHAT is alledged in the fourth Place, manifeſtly augments the Quantity of good Blood, commonly called a Plethora: For by ordinary Exerciſes, we waſte that which muſt be recruited again, and this is augmented with our Aliments, which are for the moſt Part of an alkaline Nature, and not by an Acid. It is very plain, that Study alſo, and Sleep after Meals, does decreaſe muſcular Motion, and conſequently the Velocity of the Circulation; whence a Vicidity, and not an Acidity, of the Fluids follow. But Watching, and too much Exerciſe, waſtes too much of the Lymphatic Parts and leaves the remaining Maſs more thick and vicid. A thick marſhy Air decreaſes the Contractions and Elaſticity of the Fibres, and conſequently the Vicidity of the Fluids muſt be increaſed for Want of a proper Degree of Motion therefrom. And it is likewiſe very evident, that a narrow Cheſt, which does not give the Lungs Room to protrude its Contents, can be no Acid; but apt to decreaſe the Motion of that Organ, and conſequently a Vicidity and Lentor of the Fluids muſt enſue. Nor can, what they are pleaſed to call Chalk-ſtones, proceed from an Acid. And it may be plainly demonſtrated, that what they are pleaſed to term Malignity or Contagion, is a peculiar Vicidity or Lentor of the Fluids without any Acidity, but rather the contrary. From whence we may plainly conclude that their Notions of the Cauſe of this Diſeaſe are vague and baſeleſs.

HAVING plainly proved that the Notions of a great many of the antient and modern Phyſicians, with Regard to the Cauſe of a Conſumption, are vague and baſeleſs; we will now proceed to examine their Method of Cure. Firſt, when the Patient has any Symptoms of this Diſeaſe either of the Lungs or of the whole Body, inſtead of ordering a Medicine to diſſolve the Vicidity of the Fluids, they immediately order ſome Alkalies, to blunt the Points of the Acid which they think is predominant; and either a Compoſition of hot acrid Species, which they call Cordial and Reſtorative, or a Compoſition of Oils and unctuous Ingredients, which they call Balſamic. But if his Diſeaſe is only of the Lungs, he muſt have Oils and Balſams by Wholeſale;

The First, To lubricate the Veſſels that he may bring up the Matter eaſily.

And the Second, To heal the Parts.

But when his Veſſels become ſo weak and relaxed that they cannot give a proper Reſiſtance to the Force of the Heart, but let the thin and fine Parts of the Fluids paſs off moſt violently thro' the Pores of the Skin; immediately they order the Peruvian Bark, to brace the Solids, ſay they, and prevent the violent Perſpiration; but the ordering a Medicine to endeavour to remove the Cauſe of the Diſeaſe, muſt certainly be left 'till they know what the Cauſe is, and if the poor miſerable Patient has Strength of Fibres ſufficient to diſſolve the Vicidity of his Fluids and render them duly fluxile, notwithſtanding the vicid Load they clog them with, he may recover; then how our Sons of *Æſculapius* are praiſed, their Virues are extoll'd to the Skies: But if the poor Patient ſink under his Burthen, nothing more could be done for him than was done, and every Body is contented.

We muſt now come to the third Thing propoſed, *i. e.* to ſhew the true Cauſe of this Diſeaſe according to the genuine Laws of Matter and Motion.

The Cauſe of this Diſeaſe will begin to exert itſelf, when all Parts of the Body has not a proper Quantity of nutritious Juices; and all the Parts of the Body will not have a proper Quantity of nutritious Juices, whenever

ever the Particles of the Fluids run into too cloſe Contacts or Coheſions, and the Particles of the Fluids will run into too cloſe Contacts or Cohetions, whenever the Fibres which compoſe the containing Veſſels looſe their Contractions and Vibrations, and recede from their proper Stricture, changing their Principle of Attraction into that of Repulſion. Upon theſe Changes the Body looſes its natural Motions: And conſequently becomes more chill'd. This Coldneſs and Chillneſs ariſes from the Weakneſs of muſcular Motion, and of the Attrition of the Fluids, and of the Slowneſs of Secretion, conſequent thereupon; whereby the Blood cannot ſeparate nor divide ſo finely, nor afford a proper Quantity of animal Spirits, becauſe the Solids, being relaxed, cannot impreſs that Impetus or Force upon the Fluids neceſſary for their Diviſions, and upon which the natural Heat of the Body depends.

FROM this Weakneſs and Want of Elaſticity of the Fibres, ariſe all the Alterations and Changes the Blood and Juices ſuffer, as well in Colour as Vicidity; for whereas the Blood of healthy People, when drawn by the Lance, appears of a beautiful Red Colour, on the contrary, in thoſe whoſe Fibres have loſt their Springineſs and are labouring under Decays, it changes into the Colour of well digeſted Matter, and thicker Conſiſtence.

THIS Appearance does certainly ariſe from the Globules of the Blood being enveloped in its ſerous Part, which is grown vicid for Want of a proper Degree of Motion; as we plainly ſee the arterial Blood is more florid than the Venal, and ſome Parts of the Venal more florid than others, *i. e.* according to their Degree of Velocity.

THAT white Film, which is always perceived to float upon the Surface of the Blood of ſcorbutic Habits, and the firſt beginning of this Diſeaſe, ariſes only from a beginning Vicidity of the Serum of the Blood, and the lighter Parts of the Craſſamentum ſettling laſt to its Center; for, according to the Laws of Matter and Motion, all Bodies graviate in Proportion to their different ſpecific Gravities; therefore it will follow, that the pale- or fleſh-coloured Film, conſiſting of thoſe Particles of the Blood which has the leaſt ſpecific Gravity, and ſome of its ſerous Particles, grown vicid for Want of a proper Degree of Motion, will ſubſide and take their Places laſt, according to their different Degrees of ſpecific Gravity or Denſity, and of Conſequence prove a Covering to the Surface of the Craſſamentum.

THUS far we have endeavoured to account for the Decays of the Body, and the Properties the Blood acquires under this Diſeaſe; I ſhall now go on to conſider how the ſame Inſtruments of Motion excite the other Symptoms which conſtitute this Diſeaſe.

THE immediate Cauſe of the Symptoms of a Diſeaſe muſt be the immediate Cauſe of the Diſeaſe itſelf, and a Diſeaſe which ariſes upon the Conſtitution from a Weakneſs, or Relaxation, of the Contraction and Vibration of the Fibres, muſt certainly begin firſt where the Contraction and Vibration of the Fibres is leaſt, and their contractile Powers, or elaſtic Spring, will firſt give Way in thoſe Parts that are fartheſt from the Centre of Heat and Motion; and as they are fartheſt from the Centre of Heat and Motion, they are at the greateſt Diſtance from the Heart; and they are at the greateſt Diſtance from this Organ, that compoſe the Structure of the Veſſels which lye in the extreme Parts of the Body; and for this Reaſon theſe Parts give the firſt Indication of Decays. As for Inſtance, the Ancles give the firſt Indication of this Diſeaſe, from their pitting upon any Impreſſion made with the Finger, eſpecially towards Night. When this Weakneſs, and Relaxation, of the Contraction and Vibration of the Fibres increaſes, this Diſeaſe more and more gains Ground; and towards the latter Stages of it, the Legs greatly ſwell from the Vicidity of the Fluids in the capillary Veſſels, and their Aptneſs, under ſuch Circumſtances, to ſtagnate, which is always in Proportion to the Weakneſs of the Fibres.

Aftfr the firſt Symptoms of this Diſeaſe are formed, according to the Cauſes we have here aſſigned; the vicid Fluids go on to form Obſtructions in divers Parts of the Body; and theſe Parts will be firſt obſtructed, that are incapable of making a proper Reſiſtance to the Fluids thrown on them by the Force of the Circulation, as the Lungs, Liver, Stomach, and Bowels. In all Decays, and in ſhort all chronical Diſeaſes, we perceive the Stomach the firſt Bowel affected, and nothing

thing is more reaſonable than that it ſhould be ſo, as it is the Recepticle from whence every individual Veſſel and Fibre of the Body has their Supply of Juices.

The Structure and Mechaniſm of this Organ is very curious and wonderful, that a ſalutary Senſation, commonly call'd Hunger, muſt neceſſarily ariſe, whenever it becomes near empty, this Senſation is excited by the Stimulus the Juices of this Organ give to the Fibres of its inner nervous Coat, for Want of other Matter to act on, which, by their exquiſite Senſations, greatly affect the Brain and the Senſorium commune, whereby the Mind is deſirous of Supplies, to prevent this uneaſy Senſation, by giving theſe Juices Matter to act on.

This is the Cauſe of Hunger, natural to the Conſtitution; and I will now proceed to examine the Reaſon why it is often not only defective, but vitiated to a very great

Degree. Loathing, which is a diſagreeable Senſation quite oppoſite to that of Hunger, is a Symptom that generally attends all Stages of this Diſeaſe, and increaſes with it; ſo that towards the latter Stages of it, the very Smell of Meat proves highly offenſive to ſome whoſe Fibres are weak and tender.

THIS proceeds from the Fibres of the Stomach being too much relaxed, and the ſharp Points of its Juices being enveloped in a Quantity of Lymphatic Juices, being thrown on this Organ, by the Force of the Circulation, as the Fibres of its Coats are not ſtrong enough to give them a proper Reſiſtance, and there grow vicid for Want of a proper Degree of Motion, and form that offenſive Matter commonly called Phlegm. Now the Fibres of the Stomach being greatly impair'd from the continual Glut of Juices charged upon it, cannot concoct, digeſt, and force off that Load of vicid Juices, commonly call'd Phlegm, that, often in this Diſeaſe, lies impacted in the Folds of the Stomach, and is the only Cauſe of that Nauſea, Want of Appetite, and Indigeſtion, that always attends this Diſeaſe. What we commonly call Phlegm, is nothing elſe than the lymphatic Juices of the Body grown vicid for Want of a proper Degree of Motion.

WHEN Things come to this State, the Stomach and various Parts of the Body become obſtructed, and in a very little Time are infected with ſchirrhous Swellings. Theſe Swellings ariſe from the Particles of the Fluids, for Want of a proper Degree of Motion, going into too cloſe Contacts, and if this happen in any Series of Veſſels where there is a Quantity of Fluids ſufficient to generate inteſtine Motions, the Parts impoſtumate, and prove of deadly Conſequence, upon their breaking. The Liver and Spleen now, from the Attraction of the Particles of the Fluids being increaſed, and their Fibres relax'd, begin to form Obſtructions, which, in ſanguine, or billioſe Conſtitutions, inflame and turn to Ulcers, while the ſame Obſtructions, where the Contraction and Vibration of the Fibres are more weak, and the Motions of the Fluids more ſlow, do not inflame, but terminate in ſchirrhous Swellings.

THE Liver, Spleen, and other Vicera, being thus crowded with Obſtructions and ſchirrous Swellings, prevent that proper Quantity of Blood from circulating thro' theſe Veſſels, which ought to circulate thro' them for this Fluid to be equally diſtributed in the Body; whereupon its Quantity is increaſed in thoſe Parts of the Body which yet remain unobſtructed, which excites thoſe hectic Heats which attend this Diſeaſe, either 'till the Obſtructions are forced open, or 'till Death cloſes the Scene.

WHENEVER the Blood's Circuit is leſſen'd, its Quantity muſt be increaſed in the Veſſels yet pervious, which we call a Plethora, and a Plethora will over-ballance the Motion of the Heart, and oblige that Organ to redouble its Motions to keep the ſuper-abundant Quantity of Blood in Motion, the Motion of the Heart being increaſed, the Motion, Diviſion, and Heat of the Blood muſt likewiſe be increaſed, and the Motion, Diviſion, and Heat of the Blood being increaſed, will excite a Fever of the hectic Kind; and as the Fibres of the Body are ſo weak as not to give a proper Reſiſtance to the Fluids of the large Veſſels, whoſe Motion is now increaſed, all the ſerous Parts of the Blood, which will enter the capillary Veſſels, is forced off thro' the Pores of the Skin, and is what is commonly called hectic Sweats. This Fever will not be continual, but increaſe and decreaſe as the Obſtructions more or leſs gain Ground, and according as more or leſs new Chyle, after every Repaſt, increaſes the Quantity of the Blood; from hence we may ſee the Reaſon why the Symptoms of this Fever are increaſed after a full Meal, becauſe then, the Quantity of the Blood is increaſed, by the new Chyle, which obliges the Heart to redouble its Impulſe, in order to attenuate, digeſt, and diſſolve this new Matter, and fit it for the Nouriſhment of the Parts of the Body which are yet pervious.

The Blood being in this vicid tenacious State, from a Relaxation of the whole vaſcular Syſtem, that Part of it which is convey'd to the Brain, and appointed for the Secretion of the nervous Fluid will afford but a ſmall Quantity under theſe Circumſtances, in Proportion to what is neceſſary to give conſtant Supplies to the Animal Powers in a State of Health; and hence proceeds that Melancholly and fearful Timerouſneſs which generally accompanies this Diſeaſe.

Thus the Symptoms of this Diſeaſe, ariſing from the Cauſes we have here aſſign'd, continue to increaſe, 'till the Fibres of the Windpipe begin to relax, and conſequently its Glands will ſecrete more of that lymphatic

Juice, (whoſe Office is to lubricate the Trachea) then thoſe Glands naturally ſecrete; whence proceeds an Accumulation of this lymphatic Juice upon the Veſſels of the Bronchia, which irritating its fine Nerves, excites that convulſive Motion of the Wind-pipe we call a Cough. But when this lymphatic Juice is not very hot and acrid, its Accumulation on theſe Veſſels, grows very vicid and tenacious, and becomes what is commonly call'd Phlegm; whereupon a Hoarſeneſs enſues.

Having proceeded thus far to account for the Symptoms of this Diſeaſe when univerſal or of the whole Body; we will now proceed to conſider it when it attacks the Lungs, or when an affected Lungs is the firſt Symptom that diſcovers the Attack.

There muſt certainly be a Diſpoſition to, before there can be a Generation of a Diſeaſe; and this muſt certainly be the ſame in Diſeaſes of the Lungs, as well as in thoſe of any other Part of the Body. The natural Texture of this Organ muſt therefore be weakened, before they can be affected; upon which they will not be able to give a proper Degree of Motion to the Fluids which circulate thro' their fine Veſſels; hence theſe Fluids will grow more vicid, and a Quantity of Phlegm will be generated; for Phlegm, as we have already obſerved, is only the lymphatic Parts of the Fluids grown vicid for Want of a proper Degree of Motion; for the Attraction of Fluids of ſimilar Particles is always in Proportion to the Degree of Motion, the Fluid obtains.

THIS vicid Matter increaſing, and its Particles very ſtrongly cohereing, will entangle in the fine Veſſels of this Organ, and generate Obſtructions, and as this Organ is always kept in a great Degree of Heat, from the whole Maſs of Fluids paſſing through its large Veſſels, and conſtant Motion, this vicid

Matter which obſtructs its fine Veſſels will fall into inteſtine Motions, as will all Animal Fluids, not having a proper Degree of Motion, and being kept in a Place the Heat of which being ſuperior to that of their own, and irritate their containing Veſſels; whence proceeds an Inflammation, which, if not timely cured, will degenerate in Tubercles, Vomicas, and Ulcers. Sometimes the vicid Matter obſtructs the moſt Capillary Veſſels of the Lungs, which, increaſing gradually, gives Riſe to Schirrous Tumours, that ſwell and diſtend the Lobes of the Lungs, whereby they over-fill the Cavity of the Cheſt, and are unable to dilate their fine Veſſels for the Reception of the Air in Reſpiration. Thoſe Tumours appear like white Whelks, Wheals, or Puſtules, diſperſed here and there between the fine Membranes of this Organ, which often ſuperate and degenerate into little Abſceſſes or Ulcers.

When this Diſeaſe has continued for ſome Time, that is, when theſe Ulcers, or an Ulcer, in the Lungs is confirmed, the Patient begins to expectorate a ſtinking purulent Matter, has a great Cough, and Pain in the Breaſt, and the Intervals of Eaſe begin now more and more to leſſen; towards the Evening the hectic Symptoms increaſe greatly, and towards the Morning, after Sweating, they abate. This Abatement of the Symptoms ariſes from the Plethora being decreaſed, by the great Quantity of Fluids that paſſes off thro' the Pores of the Skin; as ſoon as this Diſcharge is compleated, the cutaneous Glands, with the ſmall Degree of Elaſticity they obtain, in ſuch Circumſtances, reſtore, and the miſerable Patient finds himſelf chear'd and revived, and often buoys himſelf up with Hopes of Recovery, when, to a Perſon acquainted with the Nature of his Diſeaſe, not the leaſt Hope of a Recovery appears; the Plethora is again increaſed by the new Chyle, from whence all the feveriſh Symptoms again ariſe, and ſo on 'till Death cloſes the Scene.

Thus the Patient waſte daily, till at length he is ſubject to great Anxiety and Anguiſh, to frequent Gripings, and Fluxes, of the Belly, and ſharp pungent Pains of the Sides; then his violent cutaneous Diſcharge ſtops, and the Matter is evacuated by Stool. Laſtly his Expectoration ſtops, his Spirits flag, his Tongue faulters, his Joints and Hands tremble, and are ſcarce able to ſupport his Body, which is now almoſt reduced to a Skeleton, and Death is now the only Friend he has to releaſe him of his Miſery.

Having pointed out the Cauſe of this Diſeaſe, according to the genuine Laws of Matter and Motion, we are now to point out a Method of Cure for it, as far as it is curable, which ſhall be founded on theſe Laws. Firſt, we will begin with a Conſumption of the whole Body, commonly called a nervous Atrophy. This Species, when Medicines is ordered in proper Time, is curable, and may be cured by anſwering the four following Intentions.

Firſt, To dilute and diſſolve the Vicidity and Tenacity of the Fluids.

Secondly, To diſcharge off the Body ſuch, as when diſſolved and diluted, are not fit for proper Nouriſhment for the moſt minute Parts of the Body.

Thirdly, To ſtrengthen the Vibration and Elaſticity of the Fibres, ſo as to make them capable of giving a proper Degree of Motion to the Fluids, to prevent their falling into Coheſions and Vicidity.

And Fourthly, To order ſuch Aliments as are of the eaſieſt Digeſtion, or whoſe Particles of Matter are the moſt eaſily divided, to nouriſh properly the Fluids, and Veſſels of the Body yet pervious.

To anſwer the firſt Intention, *i. e.* to dilute and diſſolve the Vicidity of the Fluids, in this Diſeaſe, I know of no better Method than theſe Waters drank cold, join'd with the following Medicines. The Waters ſhould be drank eight or nine Times every Day, about half a Pint at a Time, more would be detrimental to the Stomach.

Take of Balſam of Tolu (in the Yolk of an Egg diſſolved) one Scruple; Flowers of Benjamin eight Grains; Volatile Salt of Vipers half a Drachm; ſimple Mint Water two Ounces; Syrup of Orange Peels two Drachms; mix, for a Draught. To be taken three Times a Day.

These Draughts, join'd with the Waters, ſhould be continued for ſome Time, *i. e.* till this Vicidity and Tenacity of the Fluids are ſomewhat broke; afterwards we ſhould order ſome Medicines to anſwer the ſecond Intention, for which the following will be found very beneficial.

TAKE of the beſt Manna one Ounce; of the ſimple bitter Infuſion two Ounces; mix, and add Powder of the beſt Rhubarb fifteen Grains; mix, for a purging Draught. To be taken early in the Morning, once every ſeven Days.

TAKE of Salt of Wormwood one Scruple; Juice of Lemons half an Ounce; mix, and add ſimple Mint and Pepper Mint Waters of each one Ounce; Honey of Roſes one Drachm; mix, for a Draught. To be taken in the Evening, after the Purge.

ON the intermediate Days he ſhould continue the Bath-Waters and Draughts as uſual; and perſiſt in a Courſe of theſe Medicines till the Symptoms are abated, the

Veſſels rendered pervious, and the Fluids duly fluxile; afterward he ſhould perſiſt in a Courſe of the following, to increaſe the Elaſticity and Vibration of the Fibres, and anſwer the third Thing propoſed.

TAKE of Decoction of the Peruvian Bark eight Ounces; Balſam of Tolu two Drachms; boil; afterwards add Extract of Gentian Root one Drachm and half; Salt Diuretic one Drachm; Honey of Roſes three Drachms; mix. Take four Spoonfuls three Times a Day.

HAVING pointed out a proper Courſe of Medicines to anſwer the three firſt Things propoſed; we will now proceed to point out a Method to anſwer the fourth Thing propoſed, *i. e.* to order a proper Courſe of Regimen, and the Uſe of the Non-naturals, to nouriſh properly the Fluids, and the Veſſels of the Body, during the Uſe of the former Medicines. Here it will be neceſſary for the Patient to uſe Aliments that are of the moſt eaſy Digeſtion, of the greateſt Nouriſhment, and which will lay the leaſt Weight on the Fibres; for which I know none better than Milk of all Kinds; the beſt is Woman's Milk, next that of an Aſs, next that of Goats, and next that of Cows.

A Course of one of theſe ſhould be perſiſted in for the whole Time of the Uſe of thoſe Medicines, with nouriſhing Broths, Jellies, *&c.* If a Courſe of the Antiſcorbutic Plants were joined to their Uſe it would make them the more beneficial. It will likewiſe be very neceſſary for the Patient to uſe gentle Exerciſe, as Riding, which I would prefer before all other Exerciſes, on Horſeback, or if the Strength of the Patient will not bear that, in a Chaiſe or any other Vehicle. He ſhould carefully avoid, all Kinds of ſpirituous or vineous Liquors, and ſetting up late at Nights; he ſhould chuſe a Place for his Abode where the Air is pure, neither too hot nor too cold, get up ſo early as poſſible in the Mornings, and carefully avoid whatever diſturb his Thoughts.

BUT when the firſt Attack of this Diſeaſe is made upon the Lungs, we muſt vary our Method of Cure ſomewhat; as here we muſt endeavour to keep the Lungs ſo cool as poſſible, to prevent an Inflammation; and Impoſthumation the Conſequence of it. Therefore, if the Patient is young and plethoric, as is for the moſt Part the Caſe, we ſhould begin the Cure with Bleeding, which ſhould be repeated two or three Times, at two or three Days Interval between each Time, taking off about ſix or eight Ounces each Time: By the Uſe of which the Heat and Vicidity of the Blood will be ſomewhat abated, and conſequently the Lungs made ſomewhat more cool; afterwards proceed as follows.

Take of Manna ſix Drachms; Water-Gruel two Ounces; mix, and add Powder of the beſt Rhubarb and Salt Diuretic of each one Scruple; mix, for a purging Draught. To be taken every ſeventh Morning.

Take of Spermaceti (in the Yolk of an Egg diſſolved) half a Drachm; Salt Nitre fifteen Grains; Simple Mint Water two Ounces; Honey of Roſes one Drachm; mix, for a Draught. To be taken in the Evening after the Purge.

On the intermediate Days take the Bath-Waters, with the Draughts as mentioned before. If the Cough is urgent towards Night, as is very often the Caſe, drink freely of the following Decoction towards Night, and till the Hour of Sleep.

Take of the common Pectoral Decoction one Pound; Salt Nitre one Drachm; Honey of Roſes one Ounce; mix, theſe ſhould be continued, with the Regimen and Exerciſe as ordered before, till the Symptoms abate; and the Lungs ſeem free; afterwards he ſhould enter on a Courſe of the Balſamic Decoction of the Bark, as ordered before, to brace his Fibres, and render them capable of giving a proper Degree of Motion to the Fluids, to prevent their falling into Vicidity and Coheſions, and conſequently giving Riſe to this Diſeaſe.

As we have now pointed out the principal Diſeaſes in which theſe Waters may be uſed, either alone, or join'd with other Medicines, we ſhall now proceed to point out the Method of preparing the Body for their Reception, and the Method of Uſing them internally and externally.

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A TREATISE ON THE MEDICINAL QUALITIES OF BATH WATERS.

PART III.

Teaching the Method of preparing the Body for the Reception of theſe Waters, and the Method of Uſing them internally and externally.

WE ſhall in the firſt Place point out the Method of preparing the Body for the Reception of theſe Waters, in the various Diſeaſes we have deſcribed, in which they may be ſucceſsfully uſed, and in the various Conſtitutions in which theſe Diſeaſes may happen.

And Secondly, We will deſcribe the Method of uſing them internally and externally in thoſe Diſeaſes and Conſtitutions as aforeſaid.

And here we will begin with pointing out the Method of preparing the Body for the Reception of the King's-Bath-Water, when uſed internally. Here is not a great deal of Art required for preparing the Body in thoſe Caſes: When the Patient is of a good Conſtitution, cleanſing the Stomach and Bowels, with a Vomit, and two or three Purges, and obſerving a ſtrict Regimen, for about a Week before he begins to drink the Waters, and during the Time he drinks them, will be ſufficient, except he is very plethoric; then indeed it will be neceſſary for him to be blooded. The Patient may uſe gentle Exerciſe during this internal Courſe, but ſhould carefully avoid expoſing himſelf too much to the cold Air, or tarrying up too late at Nights, as either of theſe will be attended with dangerous Conſequences, more eſpecially if, at the ſame Time, he drinks large Quantities of ſpirituous or vineous Liquors; as theſe will not only entirely deſtroy the good Effects of the Bath-Water, but, when join'd with that Fluid, will endanger a Fever, or an Inflammation of ſome of the great Organs of Life.

But when the Patient's Diſeaſe requires a Courſe of Bathing, it will be neceſſary for the Body to be properly prepared, according to the Strength of his Conſtitution, and the Nature of his Diſeaſe. Therefore, if he is of a very groſs Conſtitution, or full of crude undigeſted Humours, and labours under any of the Diſeaſes we have pointed out which may be relieved by the external and internal Uſe of this Water; it will be neceſſary he ſhould obſerve a ſtrict Regimen for at leaſt four Weeks before he begins Bathing; carefully avoiding all Kinds of ſpirituous Liquors, and Wines, excep the has been accuſtomed to drink freely thereof, and a ſmall Quantity of it is abſolutely neceſſary, to keep up the Contraction and Vibration of his Fibres; this ſhould likewiſe be obſerved during the Time of Bathing; he ſhould be purged once every three or four Days when under this Courſe, and in the Evening after each Purge he ſhould take a Diaphoretic and Diuretic Medicine to move the Humours by Sweat and Urine, for which I would recommend ſuch as the following, increaſing or decreaſing the Quantity thereof according to the Strength of the Conſtitution.

TAKE of Gum Guajacum and Bezoar Mineral of each one Scruple; Conſerve of Hips Quantity ſufficient; mix, for a Bolus. To be taken going to Bed, drinking after it the following Draught.

Take of Simple Baum Water two Ounces; Salt Diuretic half a Drachm; Syrup of Balſam ſix Drachms; mix.

The Uſe of theſe is to unload the Veſſels of the ſuperfluous Quantity of Juices, leſt the violent Rarefaction and Velocity they receive, during the Time of Bathing, ſhould endanger an Inflammation, Fever, or a Rupture of their containing Veſſels.

If the Patient is young and plethoric, inſtead of the Method propoſed he ſhould be blooded two or three Times in ſmall Quantities, according to the Strength of his Conſtitution, and four or five Days Interval between each Time. He ſhould take two or three Doſes of a purging Medicine at proper Intervals, and carefully avoid, the expoſing himſelf too much to the cold Air, any Kind of Wine, or ſpirituous Liquor, in too great a Quantity, all high-ſeaſon'd Food, and Pickles; and adhere to a Diet of white Meats, Milk, and all Kinds of Vegetables; and if he has been occuſtomed to drink Wine, let him drink of genuine Madeira, or the ſtrong Wines of Turkey and Greece diluted with Water, and theſe in ſmall Quantities.

When the Patient is of a very weak Conſtitution, and when there is not a ſuper-abundant Quantity of Juices, too much Evacuations will be detrimental; as they evacuate too much of the nutritive Juices, and greatly weaken the Texture of the Maſs of Fluids, ſo that their increaſed Velocity and Rarefaction, during the Time of Bathing, will endanger their Diſſolution and Corruption.

Therefore, all the Preparation the Body has Need of in theſe Caſes is a Vomit to cleanſe the Stomach, and two Doſes of a purging Medicine to cleanſe the Bowels, with a Diet of white Meats, Milk, all Kinds of Vegetables, Sago, Salop, or any ſoft balſamic Food; and if the Patient has been accuſtomed to drink Wine, it may now be drank in ſmall Quantities. Gentle Exerciſe will likewiſe be very beneficial here, as Riding on Horſe or in a Chaiſe or any other Vehicle; but great Care muſt be taken not to expoſe the Body too much to the cold Air.

When the Patient is afflicted with any of the Diſeaſes which we have pointed out to be relieved by the Hot or Croſs-Bath Waters, uſed internally; the Method of preparing the Body is much the ſame as is for the internal Uſe of the King's-Bath Water, *i. e.* to cleanſe the Stomach and Bowels, uſing a ſtrict Regimen, gentle Exerciſe, and carefully avoiding the pernicious Cuſtom of ſitting up late at Nights, and the cold Air.

The Diſeaſes we have pointed out, which may be relieved by Bathing in the Croſs or Hot Bath, and uſing the Waters internally, are thoſe which happen to the Fair Sex in particular; ariſe from a Coldneſs and Viſcidity of the Fluids, and a Relaxation of the Fibres. Therefore in theſe Caſes we muſt cleanſe the Primæ viæ, or Stomach and Bowels, before we enter upon a Courſe of theſe Waters, but it muſt be with ſuch Medicines as are warming, and coroborative at the ſame Time they purge, as their Fibres are weak and lax, and will not bear large Evacuations, in theſe Caſes I would recommend ſuch as the following Medicines: Increaſing or decreaſing their Quantity according to the Strength of the Patient.

TAKE of the beſt Rhubarb in Powder one Scruple; Gum Guajacum powdered ten Grains; Volatile Salt of Amber five Grains; Syrup of Balſam Quantity ſufficient; mix, for a purging Bolus. To be taken early in the Morning.

TAKE of ſimple Mint Water two Ounces; Tincture of the Peruvian Bark one Drachm and half; Tincture of the Aromatic Species thirty Drops; Syrup of Orange Peels half an Ounce, mix, for a Draught. To be taken at Night after the Purge. The Diet ſhould be very nouriſhing and eaſy of Digeſtion. And the tender Patient be particularly careful of the cold Air.

BUT when any of the Diſeaſes, which we have pointed to be relieved by theſe Waters when cold, afflict the Patient, a Doſe or two of Lenitive Electuary to cleanſe the firſt Paſſages, and a Diet of Milk and Vegetables, white Meats, *&c.* Is a ſufficient Preparation. Exerciſe will be very beneficial here, as Riding on Horſeback, or in any Vehicle, or any other Exerciſe, according to the Strength of the Patient.

HAVING pointed out the Method of preparing the Body for the Reception of theſe Waters, we will now proceed to explain the Method of uſing them, internally and externally, in the various Diſeaſes we have deſcribed and in the various Conſtitutions in whom theſe Diſeaſes happen. Here we will begin with explaining the Method of uſing the King's-Bath-Water internally in the Diſeaſes we have pointed out, wherein that Fluid may be advantageouſly uſed.

After the Body has been prepared, in the Manner we have juſt now deſcribed, for the Reception of this Fluid, the Patient may begin its internal Uſe; drinking at firſt four Glaſſes a Day, about the third Part of a Pint each, and theſe, at the Hours of Eight and Ten in the Morning, and at One and Six in the Afternoon; theſe ſhould be increaſed gradually to ſix Glaſſes a Day, and half a Pint at a Time, and theſe, at the Hours of Seven, Eight, Nine, and Eleven in the Morning, and at One and Six in the Afternoon. But if our Patient be a Perſon whoſe Fibres ar very weak, whoſe Fluids are very fine and thin, and eaſily rarefied, or labouring

ing under any Diſeaſe wherein a ſudden Rarefaction of the Fluids would be prejudicial, particularly the firſt Diſeaſe we have treated of, which may be relieved by the internal Uſe of this Water, I would adviſe the Uſe of the Croſs-Bath Water at firſt, as it is not ſo ſtrongly impregnated with the volatile Particles which we have proved to be the chief Ingredient that cauſes the violent Rarefaction of the Fluids of the Body. The Patient ſhould begin with ſmall Quantities of this Water at firſt, not more than a Quarter of a Pint at a Time, and this not above three or four Times a Day, which increaſe gradually to five or ſix Times a Day, and half a Pint at a Time; afterwards proceed to the Uſe of the King's-Bath-Water, as before directed. The Patient may continue its Uſe ſo long as the Nature of the Diſeaſe requires; afterwards the Quantity ſhould be decreaſed gradually as it was increaſed, 'till the Patient entirely omits its Uſe.

When the Patient labours under any of the Diſeaſes, we have pointed out, in which it is neceſſary to add Bathing to the internal Uſe of this Water. It will be neceſſary for to uſe it internally for ſome Time, before begin Bathing, in the Manner we have juſt now deſcribed; then, if the Patient is of a ſtrong robuſt Conſtitution he may begin Bathing in the King's-Bath; begin with ten or fifteen Minutes Tarryance in the Water, and that twice a Week, which increaſe to an Hour's Tarryance in the Water, and three or four Times a Week. But when the Patient is of a very weak Conſtitution, as we have deſcribed before, he ſhould begin with Bathing in the Croſs-Bath, and make but a very ſhort Tarryance in the Water at firſt, which increaſe gradually to three Quarters of an Hour; afterward he may venture to bathe in the King's-Bath as before directed. The Forms of Bathing are very well known to all the Bath Guides and need not be inſerted here.

When the Patient labours under any Diſeaſe in which Dry-pumping, as they term it, is neceſſary, as in Paralytic Caſes, or the Diſeaſe which is commonly call'd the white Swelling, he ſhould not bathe above twice a Week, but that Operation ſhould be performed, on the Part affected, every Day, beginning at firſt with one hundred Strokes at a Time, which increaſe gradually to ten or twelve hundred. When the Patient comes out of the Bath, he ſhould be immediately ordered to a warm Bed, but ſhould be very careful not to keep himſelf too hot, nor encourage that violent Sweat which will immediately come on, if great Care is not taken, and be very detrimental to weak Conſtitutions, but keep himſelf in ſuch a Degree of Heat as will encourage a gentle Perſpiration, as that will be the moſt ſalutary after Bathing in theſe Waters, as violent Sweating, after Bathing in theſe Waters, will not only rob the Fluids of the Body of all their balſamic Parts, and conſequently leave the remaining Maſs much more denſe and vicid, but it greatly relaxes and weakens the capillary Veſſels of the Body, which certainly muſt be very detrimental, eſpecially to Perſons of weak Fibres, whoſe Fluids for the moſt Part is very fine and volatile. He ſhould tarry in the Bed for two or three Hours, and ſhould not go out of his Lodgings for that Day, as the cold Air, if he injudiciouſly expoſes his Body to it, may entirely ſtop Perſpiration and fatal Conſequences may enſue. Bathing uſed in this Manner; and when join'd with the Medicines we have pointed out to aſſiſt it, in the Cure of the Diſeaſes we have deſcribed, eſpecially Purging and Diuretics to carry off the Matter as it is diſſolved by each Time of Bathing; will not be attended with any of thoſe violent Symptoms which very often attends it when uſed injudiciouſly, eſpecially by Perſons of a very weak Conſtitution, but will be found the beſt natural Means yet diſcover'd for anſwering the Intentions we have applied it to in the foregoing Treatiſe.

When the Diſeaſe, and Conſtitution of the Patient, demands only the internal Uſe of the Hot and Croſs-Bath-Waters, after the Body has been properly prepared, he may begin the internal Uſe of either of them, which he likes beſt, (that of the Croſs-Bath as we have proved before is not altogether ſo hot as the other, ſo he ſhould begin with that firſt) drinking about a Quarter of a Pint of it at a Time, at firſt, and this three or four Times a Day, which increaſe gradually to half a Pint at a Time, and that ſix or ſeven Times a Day, at the ſame Hours we have noted before, for the internal Uſe of the King's-Bath-Water. But when either of the Diſeaſes, afflict the Patient, that we have pointed out to be relieved by both the internal and external Uſe of theſe Waters, the Patient ſhould begin at firſt with their internal as before directed, and perſiſt there-

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in for two or three Weeks, afterward begin with Bathing in the Croſs-Bath, at firſt not above twice a Week, and ten or fifteen Minutes at a Time, which increaſe to four Times a Week and three Quarters of an Hour each Time; carefully obſerving not to expoſe the Body to the cold Air, nor to keep it too hot, ſo as to bring on a violent Sweat, for the Reaſons we have pointed out before, but to keep it in ſuch a Degree of Warmth and will encourage a gentle Perſpiration.

WHEN the Patient labours under any Diſeaſe wherein theſe Waters may be uſed cold, he ſhould begin their Uſe with ſmall Quanties, *i. e.* a third Part of a Pint at a Time, and this four or five Times a Day, which increaſe gradually to two thirds of a Pint at a Time, and this ſix or ſeven Times a Day. But if the Patient is of a very weak Conſtitution, or greatly weaken'd by the Diſeaſe, ſo that he cannot bear ſuch large Quantities; the

Quantity of the Water ſhould be proportion'd according to his Strength, and Nature of his Diſeaſe. I ſhould likewiſe obſerve that in thoſe Caſes gentle Exerciſe will be highly neceſſary, as they greatly promote the Operation of the Waters.

But farther: Perhaps it may be aſked what Seaſons of the Year are moſt proper for the Uſe of theſe Waters, and in theſe Seaſons how long the Patient may uſe them at a Time? To theſe I anſwer, that the beſt Time of the Year for Bathing, and Drinking theſe Waters, is the two laſt Weeks of *March*, *April*, *May*, and the two firſt Weeks of *June*, all *September*, and *October*; as the Extremes of hot and cold Weather are very improper for the Adminiſtration of Phyſick of any Kind, unleſs there is an urgent Neceſſity, which has neither Law, nor Period. The Uſe of theſe Waters may be continued ſo long as the Nature of the Diſeaſe, and the various Effects it has upon the Patient, ſhall require; only he ſhould, if poſſible, begin their Uſe in the temperate Seaſons of of the Year we have juſt now pointed out, and omit their Uſe for one Week or ten Days every ſix Weeks.

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